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June 1870

SECOND ANNUAL REPORT

OF THE

BOARD of HEALTH

OF THE

HEALTH DEPARTMENT, CITY OF NEW YORK.

April 11th, 1871, to April 10th, 1872.

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HEALTH DEPARTMENT,
No. 301 Mott St., New York,
June 15th, 1872

To the Hon. A. OAKEY HALL,
Mayor of the City of New York.

Sir: I have the honor to transmit the Annual Report of the Board of Health of the Health Department of the City of New York, for the year ending April 10th, 1872, with an Appendix thereto.

By order of the Board,

EMMONS CLARK,
Secretary.

Board of Health.

Commissioners.

JOSEPH S. BOSWORTH,	*Police Commissioners.*
HENRY SMITH,	
BENJAMIN F. MANIERRE,	
THOMAS J. BARR,	
STEPHEN SMITH, M. D.;	*Health Commissioners.*
GIOVANNI CECCARINI, M. D.,	
MAGNUS GROSS,	
JOHN MULLALY,	

S. OAKLEY VANDERPOEL, M. D., *Health Officer of the Port.*

A. OAKEY HALL, ... *Mayor of the City of New York.*

President.

JOSEPH S. BOSWORTH.

Secretary.

EMMONS CLARK.

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Sanitary Committee.

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STEPHEN SMITH, M. D.
MAGNUS GROSS.

Committee on Permits.

STEPHEN SMITH, M. D.
JOHN MULLALY.
MAGNUS GROSS.

Committee of Vital Statistics.

GIOVANNI CECCARINI, M. D.
S. OAKLEY VANDERPOEL, M.D.
STEPHEN SMITH, M. D.

Committee on Street Cleaning.

JOHN MULLALY.
HENRY SMITH.
THOMAS J. BARR.

Committee on Finance.

MAGNUS GROSS.
BENJAMIN F. MANIERRE.
THOMAS J. BARR.

Committee on Law and Ordinances.

MAGNUS GROSS.
JOHN MULLALY.
BENJAMIN F. MANIERRE.

Officers of the Board.

City Sanitary Inspector and Sanitary Sup't.

MOREAU MORRIS, M. D.

Health Inspectors.

FRANZ HEUEL, M. D.
EDWARD H. JANES, M. D.
HENRY DE WITT JOY, M. D.
JAMES KENNEDY M. D.
STUYVESANT F. MORRIS, M. D.
PHILIP O'HANLON, M. D.
WM. H. B. POST, M. D.
CHARLES F. ROBERTS, M. D.
HENRY R. STILES, M. D.
AUGUSTUS VIELE, M. D.

Sanitary Permit Inspector.

CHARLES H. COOPER.

Inspector of Street Cleaning.

THOMAS COTTMAN, M. D.

Register of Records.

CHARLES P. RUSSEL, M. D.

Deputy Reg. of Records.

JOHN T. NAGLE, M. D.

Attorney and Counsel.

AARON J. VANDERPOEL.

Engineer.

CHARLES H. HASWELL.

Analytical Chemist.

CHARLES F. CHANDLER.

Sanitary Architect.

CARL PFEIFFER.

Chief Clerk.

GEORGE S. HASTINGS.

acting. More than half the entire population of the city is here brought under the constant observation of the Inspectors. This class is in general reckless and regardless of all sanitary regulations, and it is only by constant and patient watch and care that their houses are maintained in a state of comparative decency. The task of preserving the ordinary conditions of health among the poor is rendered much more difficult by the indisposition of landlords to improve their dwellings. They too frequently regard all improvements as a pecuniary loss, and hence delay or resist the execution of the orders of the Board. But difficult and discouraging as are the details of this work in the houses of the dependent classes, the results are most encouraging. The annual mortality and sickness rates have notably diminished, where this work has been most effectually prosecuted. The death rate in the worst tenement houses has fallen nearly 15 per cent. within the last four years. The regulation of trades and kinds of business which in themselves are offensive or become so by careless and improper management, received constant attention. Every effort has been made within the power of the Board to compel those who are engaged in such business to so conduct their operations as to avoid creating a nuisance, or to discontinue their works altogether. Thus slaughtering, tallow and lard rendering, stabling, manure removal, yarding of swine and cattle, and many similar trades or occupations have been subjected to frequent and rigid inspection, and every violation of the Sanitary ordinances has been reported, and the proper remedy applied. During the year the Board has devoted much attention to the undrained lands on the unoccupied portions of the Island. Sanitary surveys have been made of large areas, and the necessary papers have been transmitted to the Department of Public Works, which alone can perform the required work. The area of land thus underdrained and rendered habitable is very large, amounting to hundreds of acres. (See Appendix.) The special work performed by the Board to meet the exigencies caused by the prevalence of contagious diseases is largely in excess of the former year. Small-pox has exhibited the most persistent epidemic tendency throughout the greater part of the year. At times the officers of the Board have been severely taxed to meet the pressure of this disease. On several occasions the sudden increase of the disease has compelled the Board to largely increase its corps of Inspectors, and employ every available means to control its spread. It is gratifying to be able to state, that the city has, apparently through these efforts, been saved from a wide-spread epidemic of this terrible scourge. In anticipation of Cholera, the inspection of tenement houses was repeated at such intervals as their sanitary condition required, and every possible precaution taken with the means at the command of the Board, to guard the city against the epidemic.

Sewers.—The sewerage area of the city is constantly increasing, and no building is now erected without proper sewer connection. The capacity and construction of the sewers are satisfactory, but they are inferior to those of some of the capitals and leading cities of Europe. More care should be taken to prevent the ascent of sewer gases into the dwellings, there to be inhaled by the occupants in their sitting-rooms and bed-chambers, causing pernicious fevers and a variety of other diseases, as appears in the Report of the City Sanitary Inspector. (See Appendix.) Continued careful observation and consequent improvements in the connections between sewers and house-drains, as also in the construction of traps, valves, basins, &c., will considerably aid in preventing these deleterious influences, and lessening the rate of mortality in large cities.

A radical deficiency, however, inherent to our sewerage system, and of which so far but casual notice has been taken, is the emptying of all the sewers into the piers and slips adjoining the foot of streets, instead of being carried to the ends of piers or to the bulkhead line. As it is, the matter discharged from the sewers is deposited into the slips, there to remain, and to form layers of fermenting and decomposing animal and vegetable refuse, which makes living in their neighborhood dangerous to health, and may be the cause of increased sickness and mortality even in districts further off. During the warm season, at the lowest of ebb, these mires of putrifying substances can be seen sending to the surface numberless bubbles, all of them discharging gases deleterious to the health and dangerous to life. Dredging, repeatedly urged by the Board, would lessen the evil, though not remove it. It seems, however, that even this small aid toward improving public health cannot be now obtained. The private owners of piers and slips have proved culpably negligent and regardless of the sanitary condition of the city; their piers and slips are in a wretched condition in this respect, for they never dredge, and hardly keep them in proper repair. The Commissioners of Docks, while willingly complying with the requests made by this Board, are met with an order from the Pilot Commissioners, forbidding them to dump any more of the slip deposits into the Lower Bay. But if dredging was vigorously attended to, the dumping of the taken up mud into any part of the Bay allowed, and even the mouths of the sewers extended to the bulkhead line, the evils connected with our sewerage system would be only in part abated, inasmuch as we are not only at fault in a sanitary but also in an economical respect. We deem it of the highest importance that the attention of the citizens and authorities should be called to the irretrievable and unpardonable waste of most valuable fertilizing materials—ammonia, alkalies and phosphates, caused by this system of sewerage. It is ascertained from reliable authorities, that the solid and liquid discharges from one million inhabitants of large cities (men, women and children,) amount annually, *if reduced to powder*, to nearly fifty million pounds in weight. Adding to this all the excrements, bones and other refuse coming from the animals kept by this million, or slaughtered within the city, all the garbage discharged from the kitchen, the rubbish from factories, &c., and all the sweepings from the streets, we have before us hundreds of millions of pounds of substances nearly all of them taken from the soil and representing the inorganic food of plants. A very small per cent. of all these materials produced in New York are returned to the soil, the rest is washed into the river and sea or deposited in the slips to form hot-beds for contagious fevers, instead of being used in the raising of grain, vegetables, &c. Since the discovery of the Peruvian and other guano, the farmers of this country have invested many millions of dollars in the fertilizers to keep up the productiveness of their impoverished land, while we in New York have washed nearly all of these valuable materials annually into the river, or kept them near us in a condition that they poisoned us and destroyed our health. It is not necessary to cite authorities to prove the already accomplished sad results as well as yet impending consequences of such thoughtless waste, but the following pertinent remarks of Baron Liebig may find a place, to wit: "It is one and the same natural law that controls the existence and the downfall of nations. The robbing of countries of the conditions of the fertility of their soil causes their ruin, the preservation of the same their continued prosperity, progress, wealth and power." And in another place the eminent philosopher speaks as follows: "No people and no nation on earth have thus far avoided their own decline and destruction save those understanding the conditions of their existence and increase; and all countries and regions failing to return through the hands of men what had been taken from the soil by successive crops, are destined to decay, depopulation and final ruin. The hope, entertained by some, that a field in Greece, Ireland, Spain or Italy, which once bore ample crops and is barren now, may ever again be made fertile, is totally illusive. The emigration from Ireland will go on, and the population of Greece and Spain will never again exceed a very narrow limit."

Now, as it can be proved by indisputable figures, that the waste of fertilizing materials going on in this city will hasten the ruin of our State agriculture, at an incredibly quick rate, we should proceed in time to guard against its direful consequences by a change in our destructive sewerage system. In the same way, perhaps, as we draw the "Croton" from some of the neighboring counties, we should return all the sewerage to them, securing by these means unprecedented fertility to them as well as to many other portions of the State. It has been ascertained by English economists, that the introduction of the water-closets and sewers (as they are,) into the large cities of England, causes the irretrievable loss of fertilizers to an extent equivalent to the production of food for nearly four millions of human beings. By utilizing the vast sewerage of the City of New York, a crop of wheat incredibly large to the uninstructed mind, could be annually secured, according to reliable authorities on this subject. Facts like these are well worth engaging the attention of the respective local authorities, as well as the State Legislature.

Pavements.—All the remaining cobble-stone pavements should be speedily supplanted by square stone pavements. Cleanliness, comfort and economy alike recommend this change. The streets can never be thoroughly cleaned, and kept clean, without a smooth surface being secured, and the immense wear and tear in vehicles and horses, now unavoidable, causes annually a greater expense than the most costly pavement would require. Wooden pavements in a city like New York should be discarded; they will never answer in an economical respect, and are highly objectionable in a sanitary one. Sensible remarks and practical views on this subject are found in an appended report from the Engineer of the Board.

Street Cleaning.—The cleaning of the streets of the city during the past year, has been continued under a contract made in 1865 for a period of ten years. The contractor, for a specified sum, agreed to thoroughly clean all the paved streets and avenues, and all the lanes and alleys, and all gutters, wharves, piers and heads of slips, once in each week, and to remove all ashes, garbage, rubbish and sweepings of every kind from the streets, every twenty-four hours, Sundays excepted, and that a few of the principal business streets should be swept twice or thrice weekly. Although the sum named in the contract (nearly half a million of dollars) may have been sufficient at that time to warrant a faithful performance of the work required, and although the provisions of the contract in respect to the number of times per week that the several streets should be cleaned, may have been ample and judicious, time has demonstrated that the contract as executed did not secure such a condition of the streets as is necessary to the health and comfort of the people of the city. Meantime miles of new streets have been paved, and many new wharves and piers constructed; many localities thinly populated at the date of the contract are now crowded with tenement houses; and many streets which by the terms of the contract were required to be cleaned once a week, now need almost daily attention. The great increase in the population of the city, and the crowded condition of the indigent classes, have year by year, demonstrated the necessity of a more thorough system of street cleaning, and a more faithful performance of the duties involved. The attention of scientific men, and of the people generally, to sanitary matters, has also established the importance to the public health of the cleanliness of the streets, and has made such cleanliness a positive necessity. To meet this great public want, the Legislature, in Chap. 383, Laws of 1870, authorized this Board to make arrangements with the street cleaning contractor, for such additional cleaning of the streets as they should from time to time deem the public health to require. Under the power thus conferred, this Board secured during the summer of 1870, the cleaning of many streets and parts of streets, more frequently than required by the contract of 1865. The remarkable health of the city during the extreme heat of that summer, and the absence of contagious and infectious diseases at that time, are believed to have been due to a considerable extent to the uniform cleanliness of the streets. But the Legislature of 1871, transferred to other parties the power to provide the necessary additional cleaning of the streets, thus relieving this Board from all responsibility, as to the cleanliness of the city in this particular. But the public could hardly be satisfied that the Board of Health was not responsible for this great sanitary work, or that it could not enforce the faithful performance of the contract for that purpose; or that it lacked the power or pecuniary resources to contract for such additional cleaning as the health and welfare of the city demanded. Hence frequent complaints from citizens to the Board upon the subject during the past year, all of which received the attention of the Health Inspectors, and were forwarded with their reports to the Street Cleaning Commission for the necessary action. The Board of Police has also furnished to this Board weekly reports from the officers of the several Police Precincts of all failures on the part of the street-cleaning contractor to perform his duties, which have been forwarded with a weekly report of the Sanitary Committee upon the same subject, to the Street Cleaning Commission. The Sanitary Committee was also directed by the Board, in August last, to prepare a list of streets and parts of streets, which needed cleaning during the summer months more frequently than required by the contract, and copies of such reports were forwarded to the Street Cleaning Commission, with a recommendation that, for sanitary reasons, the necessary work be performed. Realizing fully the importance of thorough and efficient cleaning of the streets as a sanitary measure, this Board has spared no effort to secure the desired result. The Legislature of 1872, by a special committee appointed for that purpose, investigated the subject of street cleaning in the city of New York, and considered the defects of the existing system, and the measures of relief. From the testimony of parties familiar with the subject, it was apparent that the contract system for cleaning the streets is impracticable and that the provisions of such a contract are difficult to enforce; and that the only feasible plan for securing cleanliness of the streets is to confer upon a responsible party the power to clean the several streets as often as, under the circumstances in each case, may be necessary. By Chap. 677, Laws of 1872, passed May 14, 1872, the Board of Police is fully empowered to adopt such measures as are necessary to secure the cleanliness of the streets of this city, as well as the removal of garbage, dead animals, &c., &c., and it is confidently believed that under this Act of the Legislature this important sanitary work will be thoroughly and effectively accomplished, and that the condition of the streets will no longer be discreditable to the metropolis of the country. The Department of Public Works can effectively aid the Board of Police in this important work by laying new pavements in many of the streets, by a gradual removal of all the cobble-stone pavements, and by thoroughly repairing and keeping in repair the pavements which are now so defective in many parts of the city. Such improvements would greatly reduce the expense of cleaning the streets and secure more satisfactory results from the work performed.

Garbage and Garbage Boxes. — The frequent and regular removal of garbage from the city is essential to any complete system for the cleaning of the streets. For if not removed daily and at stated hours, it is certain to be thrown into the streets, and during the warm weather at once becomes an offensive and dangerous nuisance. The contract for street cleaning, made in 1865, required that all ashes and garbage delivered to the contractor, or placed in barrels, boxes, pails, buckets or other vessels, upon the side-walk or in the front area, or upon the upper area steps of any dwelling-house, store or public building, be removed from the streets in tight carts. The failure of the contract, as executed, to secure the desired result, may be attributed mainly to the extreme irregularity of the carts in their visits to the several streets. Vessels filled with garbage have been allowed to remain in the streets many hours, and after a whole day before removal and during that time their contents were scattered upon the side-walks and in the streets by rag-pickers, or by mischievous persons, or by petty thieves, who carry away the vessels on account of their trifling value. A thorough and systematic arrangement by which a cart would pass through every street at a precise, fixed time every day, would soon remove many of the difficulties which surround this subject; the temptation to throw garbage and ashes in the streets would be to a considerable extent removed, and householders would not be subjected to constant annoyance and expense from the loss of their garbage boxes. It is also believed that an ordinance entirely forbidding the placing of garbage upon the side-walk, and a regulation by which the drivers of the carts would take the garbage boxes from the areas or halls of dwellings and return the boxes to the same place, after emptying the contents into their carts, would also be instrumental in correcting the abuses referred to. The miscellaneous and defective character of the vessels used by householders as receptacles for ashes and garbage, has attracted attention, and the Board, without prescribing any particular form or pattern of garbage box, has so amended the ordinance on this subject as to require that the boxes should be of such a size as to be conveniently handled, and if designed to hold ashes, to be lined with some suitable metal.

The use of large stationary garbage boxes, with which owners or lessees of tenement houses have, from motives of economy, obstructed the side-walks, has been uniformly discouraged by the officers of the Board, for the reasons that the contents cannot be readily removed to the carts, and that the mass of decomposing vegetable matter thus exposed to the sun is offensive to passers-by and is detrimental to the health of all persons residing in the vicinity.

The Sanitary Code contains ample regulations for the proper care of ashes and garbage. It is made the duty of every owner, tenant, lessee and occupant of any and every building, to provide sufficient and suitable boxes, barrels and tubs for receiving and holding without leakage the ashes, rubbish, garbage and liquid substances that may accumulate within thirty-six hours in such building. It requires that garbage boxes, barrels and tubs shall not remain upon the side-walks longer than may be necessary for the removal of the contents, and that no unauthorized person shall interfere therewith. It positively forbids the throwing of ashes or garbage into the streets. The difficulty of enforcing the sanitary ordinances upon this subject is obvious. It is, of course, impossible for police officers to be in front of every tenement house or upon every block at all hours of the day and night, and abundant opportunities are afforded to persons so disposed to throw their refuse into the streets without detection or arrest. To secure a general compliance with the regulations of the Sanitary Code it is necessary that the most ample and approved facilities should be furnished for the prompt and regular removal of ashes and garbage; that the police should be vigilant in the arrest of all offenders, and that the Courts should inflict the penalties prescribed by law.

The Act of the Legislature of 1872, conferring the necessary powers and the complete control of this subject upon the Police Department, promises the correction and removal of many of the evils referred to.

The enforcement of the ordinance adopted July 12, 1870, which requires that the ashes and rubbish should not be placed or kept in the same vessel with garbage and liquid substances, is of great importance. By the separation of the ashes from the garbage, both may be made useful and a source of revenue to the city—the ashes in filling streets, bulkheads and vacant lots, and the garbage as food for animals in the sparsely populated districts in the vicinity of the city. The sweepings of the streets have heretofore been almost valueless for filling vacant lots, by reason of a large percentage of garbage, and this Board has been compelled to prohibit such deposits within the city limits (unless thoroughly disinfected) as dangerous to the public health. Such deposits have been disinfected by order of this Board, under the supervision of its officers, and it is believed that careful disinfection, with the proper materials, removes the principal objections to the use of the sweepings of the streets for this purpose.

Wharves and Piers.—While it is to be hoped that the Commissioners of Docks will meet with no further interference and consequent delay in the prosecution of the important work assigned to them, and that they will secure the proper sanitary condition of all the wharves, piers, docks and slips under their charge, at no very distant day, this Board must again call attention to the private wharves and piers which are not kept in such repair and cleanly condition as is desirable and necessary. The slips in particular, as stated already in another place, are constantly filled with large volumes of decaying matter, and no improvement whatever has been made in this direction since the publication of the last annual Report of this Department, in which the injurious effects of this state of things are noticed in detail, and need no repetition here. The opening of Twelfth Avenue, North River, would afford some relief and improvement through a portion of the river front, and should be attended to without delay.

Tenement Houses.—The improvement of the dwellings and houses of the poor or dependent classes has constantly occupied the attention of the Board. This field of sanitary work in New York is unlimited in extent, and yields most gratifying results. The mortality in the houses subjected to the most thorough improvement has markedly diminished, and especially has the sickness rates from zymotic diseases decreased. Many of the tenements condemned have been thoroughly reconstructed, and when again opened for occupation, the apartments have been eagerly sought and much higher rents have been cheerfully paid. The results of these improvements upon the health of the new occupants has been most favorable; the death and sickness rates have fallen oftentimes 75 per cent. It also appears that these radical improvements are in the interest of the landlord, for his increased rents amply repay all his disbursements.

So gratifying have been the results of these more thorough and permanent improvements of the tenement houses, that the Board regards it of great importance that in future modifications of the Tenement House Law, full power be given to require the reconstruction of tenement houses, the interior arrangements of which are seriously detrimental to the health of the occupants. Could the old and ill-arranged tenement houses of this city be reconstructed according to plans which sanitary architects have recently devised, the health of the laboring classes would be immeasurably improved.

The power of the Board in the improvement of tenement houses is, however, limited to ventilation, cleansing and disinfection. This kind of work has been pressed to the full extent of the power and means of the Board. In several instances the Board has felt compelled to go so far in its efforts to protect people living in old and dilapidated dwellings, as to order their vacation and refuse to let them be again occupied until they were placed in proper sanitary condition. The result upon the health of the occupants of the reconstructed buildings has been most favorable.

Over-Crowding—Methods of Relief.—But there are other questions relating to the domiciling of the dependent classes, of vital importance to the sanitary interests of the city. These questions have been made the subject of careful study by the Sanitary Committee, whose views are embodied in a separate report. In their opinion the tenement houses, as very often constructed and managed, are the curse of populous cities. It is a nursery not only of every form of contagious disease and of perpetual epidemics among the poor, but not infrequently of many species of vice, immorality and crime. Human beings in many cases are herded together, men, women and children, with but little regard to decency. The majority of tenement houses in this city are old structures, built for other purposes, partitioned off within so as to give each family a living room 10 by 12 feet, and a bed-room 6 by 4 feet, while no regard is paid to ventilation or domestic conveniences; 20, 30, 40, to 150 such apartments are constructed, and into each a family of from 3 to 5 persons is crowded. Dangerous as is such over-crowding in individual houses when exposed to the full play of the winds, it is increased one hundred fold when such dwellings are as closely packed together in the blocks as are these tenants in their apartments. Rear tenement houses aggravate the evil beyond measure. They are built upon the rear of the yard, close to the rear tenement of the opposite lot, leaving a small, cold and damp space between the front and rear houses, not inappropriately called the *well-hole*. Not only are fresh air and sunlight thus effectually excluded from the living and sleeping apartments of most of the inmates, but the buildings become damp and cold, and in time are saturated with the poisonous and filthy excretes of the inmates.

The gradual depopulation of those wards lying below Canal street, driven out by the inroads of commerce, and the corresponding increase in those further up town, more especially in the Seventh, Eighth, Tenth, Eleventh, Thirteenth, Seventeenth and Eighteenth Wards, which contain the vast majority of the tenement population, is shown by the following table:

Change of Population during the Interval between the Years 1850 *and* 1870.

WARDS.	1850	1860	1870
First........	19,754	18,120	14,463
Second	6.665	2,507	1,312
Third..	10,355	3.757	3,715
Fourth	23,250	21.994	23.787
Fifth	22,686	22.341	17,152
Sixth..	24,698	26,698	21,153
Total........	107.408	95.417	81,582
Seventh	32,690	40,006	44.819
Eighth	34,612	39,722	34,913
Tenth	23,316	29.067	41.411
Eleventh..... . .	43,758	59,963	64.230
Thirteenth	28,246	32,917	33,365
Seventeenth....	43,766	72,775	95,411
Eighteenth	31,546	57,444	59,598
Total........	237,934	331,904	373,747

The changes which have taken place in the number of dwelling houses during the fifteen years between 1855 and 1870, shows how, in the wards named, commercial buildings have usurped their places:

WARD.	1855	1865	1870
First............	660	511	415
Second	256	81	41
Third	419	185	142
Fourth	1,162	995	957
Fifth	1.620	1,251	...
Sixth............	1,133	938	...

The stores and business houses have increased in proportion as the number of dwellings have decreased.

The extent to which this overcrowding has been carried exceeds that of any other of the large cities of the civilized world. The following comparative table exhibits the population to the square acre of the tenement house classes, or the poor of New York and London, as shown by the census of 1870:

NEW YORK.		LONDON.	
Eleventh Ward...........	328	Strand..	307
Thirteenth Ward :......	311	St. Luke's......	259
Fourteenth Ward	275	East London....	266
Seventeenth Ward.........	289	Holborn	229

The effect of this excessive overcrowding in badly constructed dwellings is shown by the fact that this half of the population of New York yields 75 per cent. of the total sickness and mortality. Meanwhile a new feature has been added to the problem of providing suitable homes for the poor in the enormous rise in the valuation of lands over the entire island. This must result in preventing the extension of the area of tenement houses in the upper part of the Island, and consequently will be followed by still greater crowding and concentration in the present tenement house districts. Between the high-priced lands in the upper districts and the encroachments of commerce in the lower districts, the tenement house population is being yearly crowded into narrower and narrower quarters, though that population is itself steadily on the increase. The degree of pressure of this class upon surface area in the Seventeenth, Eleventh and other Wards, already frightful, must eventually, if no adequate remedy is provided, result in a death rate of enormous proportions. It is a fixed and unchangeable law, that when the number of persons on a given area, living on the surface or in low buildings, exceeds a certain limit, the annual mortality will relieve the surplus. To prevent such consequences, the surface area must be diminished, or a large cubical area must be obtained by elevation, with increased or adequate supply of pure air.

The methods of relief proposed are of two kinds—the reconstruction and improvement of existing tenement houses on the most improved sanitary principles, or the dispersion of this population, or its diffusion over a large area. The method of relief by improving the sanitary condition of existing tenement houses has occupied the attention of the Board of Health for the past six years, and the improvements that have been made were in accordance with the law for the regulation of tenement and lodging houses. When the work began the mortality in the tenement houses was about 75 per cent. of the total in this city. It has steadily fallen year by year, to 66 per cent., and is still falling, showing during the past year an actual saving of 2,600 lives. The greatest reduction has been in the tenements which were formerly in the worst condition, and where the improvements have been the most thorough. The improvements in the ventilation, cleanliness, &c., only mitigate the evil and do not strike at its root and effectually eradicate it. Reconstruction of the old and imperfect tenements is what is needed, as is shown by numerous illustrations. A house in East Seventeenth street, having a capacity for ten families, had fallen into a condition of extreme dilapidation and filth; in addition to other diseases, typhus fever began to prevail among the inmates, and in the space of six months twenty persons had this disease. The house was ordered to be vacated and thoroughly repaired; the privies and drains were placed in good order; the walls were scraped and replastered; the woodwork was removed; thorough ventilation of every room was secured, and the whole was newly painted. During the five succeeding years scarce a case of sickness occurred in the house. The Old Brewery in the Sixth Ward, was formerly occupied by a very poor class of people living about the Five Points. It was in an extreme state of dilapidation and saturated with filth of every description. Every form of contagious disease here found a home, and diseases directly traceable to local causes prevailed throughout the year. The death rate was about 55 per 1,000, and the sickness rate was nearly equal to the total population. This building was taken possession of by the Methodist Society, and converted into a mission house. The interior was entirely renovated, additions were made, and two stories of the old building were converted into living rooms for families, of whom there are on an average, about 20 occupying apartments there; these are compelled to conform to the strict sanitary rules of the establishment and keep their persons clean, and the result is that not more than one death occurs annually among these 20 families, and that, from chronic diseases not traceable to the house. The tenement No. 33 Cherry street was one of the worst of its kind in the city. It was ordered to be vacated last Fall by the Board of Health, and entirely reconstructed internally by the owner at an expense of about $5,000. The increase in the rents since then has amply repaid the interest on the cost. No sickness has occurred in it since its reoccupancy. The immense double building in the rear of Nos. 34 and 38 Cherry street, occupied by over 150 families, was the nursery of diseases of all kinds. It was one of the most repulsive sights in the Fourth Ward, and was vacated by order of the Board of Health, and reconstructed internally at a cost of $20,000.

Much of the over-crowding in the tenement districts might be relieved by changing the unoccupied warehouses and stores in those districts in the lower part of the City, where commerce has left and gone further up town, into model tenement houses, for which they may be found to be adapted, having generally high ceilings, wide frontage and plenty of light and ventilation. The Sanitary Committee believe the change would pay well on the outlay, and would, to a considerable extent, solve a problem that each year becomes more pressing, and must shortly be met with decisive measures, if the health of the city is to be preserved. Were the stores of the Second Ward alone to be thus transformed into tenements, they would accommodate at an average 20 families or 100 persons, giving a total additional population of 13,120, or a total, when added to the present population of 14,432, and even then the surface area for each person would be nearly twice as great as in the Eleventh Ward at the present time. By thinning out in this manner, the population of the tenement Wards could be reduced to what it was 15 or 20 years ago. Cheap and quick transit would not suffice to induce this class to move away. They prefer to remain in the city, crowded together. The only thing that can be done, is to compel the erection of a better class of tenements, constructed on approved sanitary principles, and also to reconstruct such as are at present in existence, so as to make them conform to the new and improved standard.

Cellars and Underground Rooms.—This class of living apartments of the poor has constantly occupied the attention of the Board. Fully recognizing the necessity of eventually closing every apartment as a human habitation which comes under the technical classification of a cellar, the Board has granted permits for the occupation of those rooms much more sparingly than formerly. Permits have been granted only where all the conditions of drainage, ventilation, and exposure to the sun were of the most favorable character. Large numbers of the most objectionable cellars have been permanently vacated.

Stables and Stable Manure.—The ordinances regulating stables and the care of stable refuse have been as rigidly enforced as the powers of the Board will permit. Constant watchfulness over the stables has preserved them in a fair state of cleanliness and repair, and but few complaints have been made against them.

The care and disposition of stable refuse, manure and straw, have been far from satisfactory. The accumulations of this material on vacant grounds, and the constant stirring of the decomposing mass, have been a just cause of complaint by citizens living in the vicinity of such collections. Every effort has been made by the Board to abate this nuisance but with only partial success. The arrest of offenders has been followed by their immediate discharge, by the magistrate and return to their work. Suits against them in courts are not brought to trial, and grand-juries have not been willing to indict them. The pressure made upon them by the Board has done little more than annoy the dealers and producers, without removing the evil.

Discouraging as this struggle has been with an open, palpable nuisance, so revolting to the senses, and so notoriously injurious to the public health, the Board does not despair of securing its final abatement. Like other great sanitary questions, the proper care of stable refuse must sooner or later be solved in the interests of the public health.

Removal of Dead Animals.—The process of rendering the carcasses of dead animals has been greatly improved by the New York Rendering Company. The work is done on board of a large boat supplied with boilers of sufficient capacity for twice the number of dead animals, and the amount of refuse animal matter produced within twenty-four hours under ordinary circumstances throughout the city; all offal, when brought to the dock, is at once thrown into the rendering tanks, and the carcasses received are skinned, and cut for the same purpose generally without unreasonable delay, but not with that degree of cleanliness which is desirable. The gases and vapors from the tanks are conducted through heated coils, to be super-heated and burned up while passing over the fire of the furnaces specially provided for that purpose. Toward the close of the day the boat is run into the river, where the rendering takes place during the night. The mud in the slip where the rendering boat is moored, and consequent shallowness of the mooring ground, at times interfere with the taking out of the boat—a serious objection that should be speedily removed in order to secure the full benefit of these valuable improvements in conducting the business of rendering offal, dead animals, &c. The offal is sometimes brought from the slaughter-houses to the rendering dock in a very tainted condition, which should be avoided, and the wagons and carts should be more thoroughly covered while passing through the streets, so as to avoid, as much as possible, any reasonable cause for complaint on the part of the public.

Removal of Night Soil.—Part of the contract made by the Common Council for the removal of night soil in 1865 is still in force, namely: The delivery of the night soil to the Lodi Company in New Jersey. In the meantime the business of the scavenger becomes less with every additional connection of house-privies or closets with street sewers. The scavengers have performed their duties well during the past year, if the considerably smaller number of complaints are to be taken as a fair criterion. The mode of cleaning sinks and privies by means of an exhauster or dry hose attached to an air-pump and receiving tank, in successful operation in the principal European cities for the last ten years, will also have a trial here under the superintendence of this department. Further details on this subject are found in the report of the City Sanitary Inspector.

Slaughter Houses.—In order to secure the utmost practicable cleanliness of these establishments, the Board has required frequent inspections and reports upon their condition. In general they have been managed with considerable care, and the proprietors have with few exceptions manifested a disposition to fully comply with the ordinances, and with the orders of the Board. Still, the business is not conducted in a manner creditable either to the butchers or to the city. The slaughter-houses of to-day, and the methods of slaughtering, though considerably improved in recent years, are by no means satisfactory. The buildings are in most cases not adapted for cleanliness, the yards accumulate filth, the machinery is rude, and the care of meats shows little skill and neatness. It may well be doubted if, with all the precautions attempted, some portions of the meat slaughtered in New York reach the consumer in a wholesome state. This unsatisfactory condition of one of the most necessary and important trades of the city should no longer be continued. It is a business in which the whole community has an abiding interest. Provision should be made for concentrating the entire slaughtering business at some accessible, but isolated location on the river front. If private capital cannot effect the needed reform, the question may arise whether the municipal government should not be appealed to in aid of this great public enterprise.

Importation of Rags.—The importation of rags from Europe to this port is a large and important business. These rags are gathered in cities, and among the peasantry, and after being washed and dried, are baled for shipment. When brought to this port the bales are stored in warehouses temporarily before transportation to the various paper mills in the interior On the appearance of cholera a careful inquiry was made as to the sources of supply of rags, when it was ascertained that some of these cargoes were collected in districts of Russia where cholera was prevailing or had recently existed. As a precaution against the possibility of cholera infection being conveyed in these rags, the Board prohibited their storage in the warehouses of the city except the bales remained unopened during the period of their detention.

Cows, Swine, Goats.—The number of cows, swine and goats within the city limits decreases with each succeeding year. Permits to keep milch cows in the upper and less densely populated parts of the city have been granted by the Board after careful inspections of the premises in each case, and upon satisfactory evidence that proper care is taken in respect to the ventilation and cleanliness of the stables, and the kind and quality of the food furnished to the animals. It is not known that there are any cows upon the island which are fed upon distillery swill or any other substance which would be likely to produce disease in the animal, or impair the quality of the milk. Permits to keep swine in the built-up portions of the city are not granted by the Board, and the number upon the upper part of the island is now limited, and constantly decreasing. Earnest and frequent complaints in respect to the nuisances resulting from the keeping of cows and swine, which were so common a few years since, are no longer heard—a result due mainly to the constant supervision and considerate action of the health authorities.

Disinfection and Disinfectants.—The operations of disinfection have been continued as heretofore on an enlarged scale. The prevalence of small-pox, the condition of street gutters, and vacant and sunken lots, as well as the dumping grounds and other places, have caused considerable work and expenditure in this department of the service. More useful and protective work could be performed in this connection, if the limited means of this Department would allow. As to the disinfectants, reference is made to the appended report of the Assistant Chemist of the Board. A mixture of metallic solutions of chlorides and carbolic acid has been found the most efficient, and, at the same time, cheapest disinfectant.

Care of Contagious Diseases.—The efforts of this Department to control and, as far as possible, to suppress contagious diseases, have been unremitting. All practicable means within its power have been employed, and no measures coming within its jurisdiction which offered success, have been neglected. But these efforts have been only partially successful. At no time and in no case has the Department had that power to deal with these diseases which science and humanity demands. Its officers suggest where they ought to command, and stand idly by and see others do imperfectly what they ought to do themselves thoroughly and effectually. Contagious diseases are propagated by a special poison communicated from the sick to the well. They are diseases peculiarly susceptible to preventive measures, and can undoubtedly be suppressed when adequate measures are employed. Small-pox, scarlet fever, measles, whooping cough and allied affections which cause such a large annual mortality in this city, can only propagate themselves by the more or less immediate contact of the sick with the well. If the necessary proximity is avoided, or the poison peculiar to each is destroyed as soon as it is generated, and before it comes in contact with the well, or if the well be protected by preventive remedies, these diseases must cease to spread, and finally will be exterminated.

But to render preventive measures effective, the power to apply them must be adequate. Every case of contagious disease must be at once brought under sanitary care and control. The rich equally with the poor, sick of those diseases, must be vigilantly watched from the commencement of the attack to its termination. Those who can be properly cared for, and isolated at home, need the same scrupulous sanitary care as those who must go to hospital. And hospitals for contagious diseases should be constructed, organized and managed, with the single purpose of restoring the sick, and preventing the spread of the disease for which they are set apart. And such construction, organization, and management, can only be made effective by sanitary authorities.

Impressed with these views and desirous of rendering the Department in the highest degree efficient in protecting and promoting the public health, efforts have been made to secure such legislation as would render its power adequate to meet every emergency which contagious diseases present. But these efforts have thus far failed, and the Board has had to contend with these preventable diseases under great disadvantages.

It is to be hoped that at no distant day this Board will be clothed with ample power to control and suppress these domestic scourges.

Small-Pox.—The history of small-pox, as it occurred in this city, during the past year, and the methods in detail by which it has been controlled, through the efforts of the Health Department, have been embodied in a special report. (See Appendix.)

About the first of January, 1870, this Department became informed through the increasing reports of cases from the medical profession, and others, that small-pox was becoming again epidemic in its character. The Board of Health immediately increased the force of Assistant Health Inspectors, specially for the duty of offering free vaccination, by house to house visitation, to all persons needing that protection. This duty was continued until nearly every tenement house, and public and parochial school, had been visited, and the large number of about 100,000 persons had been vaccinated. This measure, in connection with the sanitary care of the cases as they occurred, had the effect of almost entirely suppressing the disease, so that during the months of September and October, the number of reported cases reached the minimum, being as low as six per week.

During the year 1871, the number of cases known to have occurred in the city, by reports received at the Bureau of Sanitary Inspection, in connection with the number of patients received at the Small-pox Hospital, from other sources than the city directly, was 3,084. The total of deaths for the year, as recorded in the Bureau of Vital Statistics, was 805; therefore the percentage of deaths to all cases appears to be 26.10. The percentage of deaths to cases treated at the Small-Pox Hospital, was 20.46, there having been 2,498 cases treated, and 511 deaths occurring thereat. That there was a much larger percentage of deaths occurring among the isolated and secreted at their own homes in the city, is true, beyond question, but, as no accurate statistics of the actual number of cases secreted and treated at their own homes, can be obtained, it becomes impossible to arrive at positive proportions. From the fact that so large a number, (101), were reported as dead at their own dwellings, without medical attention in many instances, it must be inferred that concealment in close rooms, without proper ventilation, or medical treatment, could not but result in a large death rate.

The special methods of controlling and arresting the spread of this disease, as employed by the Health Department of this city, are as follows:

1st. Information is received of the presence of contagious disease, under Sections 122 and 123, of the Sanitary Code, which requires that every physician shall report to the Bureau of Sanitary Inspection, in writing, every person having a contagious disease, and the state of his or her disease, and his or her place of dwelling, and name, if known, which such physician has prescribed for, or attended for the first time, since having such a contagious disease, during any part of the preceding twenty-four hours, and that every keeper of any boarding house, or lodging house, and every inn keeper and hotel keeper, shall, within twenty-four hours, report in writing to the Bureau of Sanitary Inspection, the same particulars in the last section required of any physician, concerning any person being at any of the aforesaid houses or hotels, and attacked with any contagious disease. To facilitate prompt reports, the Board has caused the blank forms to be prepared and furnished to the medical profession.

2nd. During the year 1871, over 100,000 persons were vaccinated by officers of this Board. As to the value of vaccination as a means of protection, the almost unanimous opinion of the best informed members of the medical profession is, that, when carefully and successfully performed, it is a positive protection to the individual, and our experience during the past year, offers one of the strongest proofs of this truth, viz., in the fact that among all of those successfully vaccinated or re-vaccinated, none have fallen victims to this disease in any form, while numbers have been stricken with it who refused to be vaccinated. This fact comes to our knowledge almost daily.

With reference to this successful protection, much may be attributed to the fact of using only fresh virus, while in an active condition, being almost from arm to arm, our practice being to use the virus selected from healthy infants only, within twenty-four hours from the time of taking it from the arm. From the difficulty of obtaining a sufficient quantity and a regular daily supply of bovine lymph, and from the fact that the limited supply obtained at one time, gave no better results as a prophylactic, we now rely upon humanized lymph exclusively. The absolute protection afforded so large a number, as our statistics show, is a convincing argument as to its inestimable value as a preventive.

3d. The Board of Health is empowered by law to cause the removal of any person, sick with small-pox or contagious disease, to hospital, or place by it designated, therefore it has authorized its chief officer, in his discretion, to cause such removal whenever he deems it necessary, under certain regulations. In pursuance of these regulations, unless it appears evident by surrounding circumstances that a patient sick with this disease can be thoroughly isolated so as to protect the public from any danger of infection therefrom, he or she is at once removed to the small-pox hospital. This is done by means of improved ambulances, specially provided by the Board, and under the charge of persons especially trained for that service. Those persons isolated at their own homes, are kept under the supervison of a medical Health Inspector, who attends to the enforcing of the rules adopted by the Board, with reference to quarantine and sanitary care, leaving the regular medical attendant free to his special medical care of the patient. The Board's officers, having only the duty of protecting the public from the spread of the infection, have no responsibility whatever in the medical treatment.

The details of the methods, as performed by the Bureau of Sanitary Inspection, with reference to the prevention and spread of this disease, are as follows:—

Health Inspectors are on detail duty at the office daily. The moment a case is reported, an inspector visits it and reports through the nearest police telegraph station, to the office, giving the diagnosis and the fact whether removal to hospital is necessary or not. If to be removed, the ambulance is at once dispatched, and the patient removed. A member of the vaccinating corps is now sent to the house, and vaccination performed upon all the inmates; and every house upon the block, and the face of the opposite block is visited, and vaccination offered to every inmate, informing them of the proximity of the disease. This rapidly secures, as far as possible, the protection of those who may have been exposed to the infection. This direct application seems to have had the effect of preventing any extended centres of infection from forming, and hence we find that the cases reported come from widely dispersed localities.

4th. To destroy the poison, various disinfectants are used, and a card of instructions is supplied for the guidance of those having charge of patients, that may be isolated on their own premises. Notwithstanding the well-known fact, that New York is more directly exposed to the inroads of this pestilence from all parts of the world, from which this disease may be transported during its period of incubation, and distributed before detection is possible; yet, by the use of such means as science and experience have shown to be effective in preventing and arresting its spread, the city has thus far escaped the ravages of this devastating pestilence.

Cholera.—The appearance of cholera in different parts of Eastern Europe during the Spring and early Summer months of 1871, gave rise to apprehensions that it might again be transported to our shores. And this danger was greatly increased by the occurrence of cases in the later months of the year in several of the Northern seaport towns having steamship communication with New York. In order to take all necessary steps to prevent the spread of the disease, a thorough inspection of the tenement houses was made in April and May, and every possible precaution taken to place them in good condition. They were cleansed, lime-washed and painted, and all necessary repairs made, both of the building, drains, privies, yards, areas, &c. This inspection was repeated in August and September, and cleansing and disinfection was secured wherever they were required.

When the epidemic appeared in the European seaport towns, later in the season, the threatened invasion seemed more imminent, as large numbers of emigrants from German and Russian districts, where cholera had prevailed, were at that time en route for New York. The passage by steamship is now accomplished in so short a time that it is doubtless possible to transfer those infected from one port to another while yet the poison is latent in the system, and certainly in the clothing. In order to guard, as far as possible, against the transportation of the poison, instructions were given to agents of the various steamship lines, directing the obtaining for each vessel of a full supply of proper disinfectants, and whenever diarrhœa occurred, the isolation of the sick, disinfection of soiled clothing, and of all discharges from the stomach and bowels. Constant inspections were also made of emigrant lodging houses, and special instructions were given to the landlords to report all cases of diarrhœa, maintain cleanliness and employ disinfectants in water closets. The Health Officer and Commissioners of Quarantine secured from the general Government two vessels for the sick. Ample provision was also made for the isolation of the first cases of sickness from this disease, and for their care in suitably provisioned hospitals. All the details for meeting any emergency which the epidemic might create were arranged, to be put into immediate operation. The disease did not make its appearance except in two groups of cases until the 13th day of November. On that day the steamship "Franklin" arrived from Bremen with passengers suffering from unmistakable cholera. The history of this outbreak and its suppression forms an interesting feature of the epidemic. (See Appendix.) As the season was far advanced, and quarantine arrangements were perfect, there was no occasion for special apprehension from the actual presence of cholera in such proximity to the city. No other cases occurred.

Cerebro-Spinal Fever.—During the early part of 1871, an epizootic of cerebro-spinal fever broke out among the horses of the city, and prevailed principally in the railroad stables. The number of cases was very large, and the mortality very great. It continued severely for about three months, but occasional cases were reported during the remainder of the year, and in the first quarter of the present year. The history, symptoms and treatment of this disease was carefully studied by the veterinary surgeon of this Board, Prof. Liautard, whose report is of much interest as bearing upon the occurrence of the same affection in epidemic form among the people of this city.

The first case of cerebro-spinal fever in the human subject was reported on the 7th day of February, 1872. The number of cases gradually increased until in the latter part of the first quarter of the present year, when upwards of fifty deaths were reported weekly. It has generally prevailed among the poor and destitute, whose homes are defective in all their arrangements. But the special cause of this form of fever, and the precise conditions under which it has its necessary development, are not apparent. Although it not infrequently prevails in different sections of the country, this is the first recognized appearance of cerebro-spinal fever in an epidemic form. The history of this epidemic, as it occurred in New York, has been made the subject of a special report. (See appendix.) The sanitary questions to which this form gives rise are of much interest, and worthy of careful study.

Bureau of Sanitary Inspection.—The special duty of this Bureau is comprised in the inspection and reporting to the Board, in proper form, all nuisances or causes which endanger the public health; the care of contagious diseases; the inspection and sanitary regulation of tenement houses; cleansing and disinfection.

Its corps of officers consists of the City Sanitary Inspector and Sanitary Superintendent as its chief, under whose direction are twenty-one Health and Assistant Health Inspectors, nineteen of whom are regularly qualified medical men. In addition thereto forty-eight medical men, especially charged with the duty of vaccination, were appointed as Assistant Health Inspectors, and detailed to this Bureau during the year.

There is also an ambulance and disinfecting squad attached to the Bureau, whose duties are to remove patients to hospital and disinfect premises.

The labors of this Bureau have been unusually large, doubling those of any former year, principally caused by the persistence of small-pox, requiring constant visitation and inspection among tenement houses in order to remove sources of infection and to discover concealed cases.

The result of this watchfulness, with the persistent offer of vaccination and re-vaccination, from house to house and room to room, has been the control of the spread of this infectious disease, and thereby saving the city from a wide-spread and devastating epidemic. This result exhibits a very favorable comparison with other cities.

The well organized system and methods of controlling this special disease, as carried out by the direction of the chief officer of the Bureau, reflect credit upon his administration; and the cheerful and untiring co-operation of the medical officers and all connected with the Bureau in this disagreeable and dangerous duty, deserves commendation.

The amount and kind of service rendered by this Bureau during the past year is exhibited in the following table:

Matter and Place Inspected.	Total Inspections.	Causes of Complaint.
Public Buildings	216	18
Tenement Houses	51,983	5,003
Private Dwellings	7,940	902
Uninhabitable Dwellings (vacated by order of Board)	24	22
Infected	4	4
Other	3,506	227
Dangerous	9	9
Manufactories, Workshops	1.368	199
Mills	11	7
Stores and Warehouses	2,398	235
Markets and Market Places	162	6
Slaughter Houses	2,214	1,776
Cattle Yards	13	6
Vessels	15	..
Offal Barges	2	2
Gas Works	6	..
Sulphur Works	1	1
Galvanizing Works	8	2
Fertilizing Works	1	1
Pork Packing Establishment	2	..
Sausage Manufactories	7	4
Dyeing Establishments	3	2
Breweries and Distilleries	16	6
Lime Kilns	1	1
Smoke House	1	..
Tanneries	6	2
Hide Establishments	5	2
Tripe and Gut Cleaning Establishments	23	7
Fat Melting and Lard Rendering Establishments	260	59
Head Cleaning Establishments	11	6
Rag and Bone Houses	7	6
Dumping Grounds	95	6
Manure Dumps	146	45
Piers and Docks	48	85
Rendering Docks	3	1
Natural Drains and Water Courses	4	3
Sunken and Vacant Lots	1,498	427
Horse and Cow Stables	4,096	715
Cellars and Basements	13,376	1,848
Waste Pipes and Drains	2,035	2,028
Yards, Courts, and Areas	12,798	3,006
Privies and Water Closets	17,759	5,045
Streets, Gutters, and Culverts	2,109	1,476
Smoky and Dangerous Chimnies	60	28
Dangerous Stairways	267	267
Street Sewers and Culverts	36	28
Cisterns and Cesspools	103	101
Piggeries	106	106
Street Cars and Stages	911	..
Other Nuisances	728	o75
Number of Visits by Medical Officers to cases of Contagious Diseases	3,969	..
Total	130,365	24,255

The following summary of the semi-weekly reports of the Inspectors exhibits the amount and kind of labor performed by the Medical Officers of the Bureau during the year ending April 10th, 1872:

Whole number of cattle inspected	46,400
Whole number of cattle found bruised	579
Whole number of cattle found badly bruised	194
Whole number of cattle sent to Rendering Dock	6
Whole number of reports received	20,760
Whole number of positive reports received	17,064
Whole number of negative reports received	1,642
Whole number of general reports received	2,054
Whole number of reports found correct	20,577
Whole number of reports returned for correction	183
Whole number of reports forwarded to Board	16,881
Whole number of negative reports forwarded	1,642
Whole number of general reports forwarded	2 054
Whole number of complaints received from citizens	3,025
Whole number of vessels permitted	1,601
Whole number of families visited by the medical officers to whom vaccination has been offered	334,148
Whole number of primary vaccinations performed	20,279
Whole number of secondary vaccinations performed	190,979
Total number of vaccinations	211,258

The large "number of families visited" is occasioned by the fact that it was found necessary to re-visit many families to induce re-vaccination of all the members in order to protect them from small-pox cases occurring in their immediate vicinity.

These tables exhibit the fact that our tenement houses, with their overcrowded population, require a constant care upon the part of the officers of the Bureau, and the number of inspections during the year 1871 exceeds by 25,682 those made during the year 1870, and the complaints forwarded by the inspectors upon this class of buildings alone show that so far as compliance with the tenement house act requires, there is far less cause for complaint, the complaints of 1871 numbering 1,317 less than those for the year 1870.

Twenty-four houses unfit for habitation, which heretofore have defied the efforts of the inspectors with reference to securing good sanitary conditions, have been vacated under orders of the Board.

Bureau of Street Cleaning.—The act of the Legislature of 1871, transferring to the Street Cleaning Commission the power to contract for such additional cleaning of the streets as the public health should demand, has necessarily limited the operations of this Bureau. During the past year, its duties have been confined to the examination and proper reference of complaints of citizens in respect to the condition of the streets, and to the consolidation of reports from the several Police Precincts of the failure of the street cleaning contractor to comply with the provisions of his contract, and the preparation of a weekly report of such failures for the information of the Street Cleaning Commission.

No special inspectors of street cleaning have been employed during the past year; the clerical force of the Bureau has been reduced, and during most of the year the Inspector of Street Cleaning has served without salary.

By Chap. 677, Laws of 1872, the entire control of the cleaning of the streets of this city is transferred to the Police Department, and this Board has suspended the operations of the Street Cleaning Bureau of the Health Department, and has ceased to incur any obligation or expense on account of such Bureau.

Bureau of Records of Vital Statistics.—The success which has attended the operations of this Bureau during the past year, and the perfection of its system of registration, render unusually valuable and interesting the elaborate tables of mortality presented by the Register of Records. (Appendix B.)

A very comprehensive statement of the mortality for 1871 of all the principal cities of the United States and of many foreign cities, as officially communicated, claims our special attention. The list embraces over 150 places and exhibits the salubrity of New York in a much more favorable light than might have been anticipated. The very fact, however, of the exceptionable accuracy of our death record, tells against us in such a comparison; for when, knowing the mortality of New York to have been exactly 28.6 in each thousand of population given by the last census, we are informed that St. Louis lost but 17 in each thousand inhabitants, Rochester but 16, Buffalo but 14, and Jersey City but 7, we may may well doubt the accuracy of such information. The questionable accuracy of the number given by Jersey City becomes more striking when we perceive that in the contiguous city of Hoboken, 31 deaths in the thousand inhabitants were registered during the year. Moreover, the mortality among our large floating population, and that furnished by the numerous emigrants who fill our hospitals, are circumstances which, while increasing our death rate inordinately, give it a fictitious significance.

The above facts, and many others relating to the mortality of American and foreign cities are dwelt upon at length in the Register's Report. A brief summary of its more salient features is herewith submitted.

26,976 deaths occurred during the year, a weekly average of 519, the total annual mortality being less by 199 than that of the previous year.

During the first quarter, (January, February and March) the deaths amounted to 6,622, an excess of 105 over the winter quarter of 1870. Small Pox, which had occasioned but few deaths, toward the close of 1870, now became virulent and destroyed 208 lives in the three months. Phthisis Pulmonalis was remarkably fatal, producing 1,195 deaths against 974 in the same quarter of 1870.

The deaths during the second quarter, (April, May and June) amounted to 6.621, an excess of 328 over the Spring quarter of 1870. This mortality was unusually great. It was due to the severity of the small-pox, which carried off 304 persons, to the increasing fatality of the whooping cough, and to the early spread of diarrhœal affections.

During the third quarter, (July, August and September) there occurred 7,833 deaths, or 583 less than in the Summer quarter of 1870. Although diarrhœal diseases produced 500 less deaths than in the corresponding season of the previous year, the general mortality was rendered greater than might have been expected, considering the genial character of the Summer, by the continued prevalence of small-pox, the large number of deaths by whooping cough and miasmatic fevers, and by the two deplorable catastrophes of the "July Riot" and "Westfield Explosion," the former of which caused 58 deaths in this city and the latter 82. (See Appendix B.)

During the fourth quarter, (October, November and December) there were 5,900 deaths, or 49 less than in the previous Autumnal quarter. Small-pox occasioned 129 deaths, and whooping cough 186. These were the most prominent epidemics. Remittent and Intermittent Fevers were more than ordinarily wide-spread and fatal.

During the year there were registered 8,646 marriages and 20,821 births, being an increase upon the previous year of 661 marriages, and of 6,297 births. Dr. Russell very justly complains of the indifference manifested by many clergymen, physicians and midwives, to these important branches of registration, and while expressing gratification at the very large increase in returns of births, he states that they still fall short of the actual number of children born by about 10,000, and are consequently of little avail for statistical purposes. The legal value of a complete system of marriage and birth registration is of such vast importance to the community as to demand the most earnest attention of our future law-makers.

Orders of the Board.—During the year ending April 10th, 1872, the number of orders issued by this Board for the abatement of nuisances, was thirteen thousand, seven hundred and fourteen. Of this number, two thousand eight hundred and ninety-eight were issued under the first subdivision of Section 14 of Chap. 74, Laws of 1866, by the terms of which the party served is allowed three days in which to demand a hearing by the Board of the testimony which may be presented, to show that the order should be modified or revoked. In cases where no hearing has been asked for, and the order has not been complied with, final orders to the number of eight hundred and forty-two have been issued, and the Board has directed the Attorney to commence suits for penalties for non-compliance with such orders. All other written orders, in number nine thousand nine hundred and seventy-four, have been issued under the second subdivision of Section 14 of Chap. 74, Laws of 1866, and are of a peremptory character, requiring that the nuisance be abated within five days, and if not complied with, the Attorney has been directed to commence actions for penalties for non-compliance. In a few of the most aggravated cases the City Sanitary Inspector has been directed by the Board to execute orders not complied with, but the want of money for that purpose has prevented the Board from promptly executing many orders for the abatement of important nuisances, and has compelled it to resort to the more tedious and less satisfactory process of suits for penalties, to secure the necessary compliance. The following is a statement of the subjects of the orders above referred to:

Alleys cleaned	188
“ disinfected	67
“ enclosed	2
“ graded and flagged	58
“ paved	28
“ repaired	1
Animals removed (number of orders)	11
“ (dead) removed (number of orders).	6
Areas cleaned	319
“ connected with street sewer	2
“ covered	11
“ disinfected	255
“ flagged	2
“ filled	1
“ provided with railing	9
Ashes, filth, garbage, etc., removed (number of orders,	3,485
Awnings (wooden) repaired	4
Ballusters repaired	105
Basements cleaned and whitewashed	70
“ disinfected	47
“ vacated	12
Bathroom cleaned and disinfected	1
Boiling heads, pigs' feet, etc. (business of, discontinued)	7
Bridges (gutter) repaired	2
Ceilings cleaned and whitewashed	659
“ repaired	94
Cellars cemented	24
“ cleaned	1,125
“ connected with sewers	18
“ covered	24
“ disinfected	858
“ filled	1
“ flagged	12
“ steps of, repaired	70
Cellars vacated	45
Cesspools cleaned	85
“ connected with sewer	31
“ disinfected	85
“ filled	46
“ made	27
“ repaired	12
Chimneys extended	30
“ repaired	68
Cisterns disinfected, emptied, and cleaned	4
Coops cleaned, disinfected, and removed	4
Covers (vaults) repaired	20
Cows removed (number of orders)	5
Croton pipes repaired	219
Drains covered	13
“ extended	2
“ made	28
“ (obstructions in)removed	142
Excavations disinfected, emptied, and cleaned	10
“ filled and graded	50
Faucets repaired	46
Fences “	15
Flagging (in cellar) taken up	
“ regraded and repaired	10
Floor (house) cleaned	38
“ (house) repaired and relaid	38
“ (house) removed	2
“ (privy) repaired	2
“ (stable) repaired	3
Fertilizing material manufactory (business of) discontinued	3
Fowls removed (number of orders)	78
Garbage boxes constructed	342
“ emptied and cleaned	25
“ removed	22
Gas pipes repaired	1

Gratings repaired	20
Gutters (house) constructed	19
" (house) repaired	85
" (street) cleaned	393
" " (obstructions in) removed	101
Gutter stones reset	588
Halls cleaned	870
" whitewashed	706
Horses removed alive (Number of orders)	7
Hydrants constructed	9
" removed	9
" repaired	179
Leaders connected with sewer	54
" constructed	17
" extended	38
" repaired	367
Lots cleaned	101
" connected with sewer	52
" fence	41
" filled	79
" graded	71
Manure removed (number of orders)	227
" vaults cleaned	19
" " connected with sewer	3
" " constructed	292
" " covered	86
" " disinfected	19
" " repaired	85
Outhouses cleaned and disinfected	23
Pavements repaired	71
Pigs removed (number of orders)	40
Pipes, soil (obstructions in) removed	287
" (waste) connected with sewer	50
" " (obstructions in) removed	104
" " repaired	245
" " trapped	62
Plaster (loose) removed	28
Premises cleaned	58
" connected with sewer	257
" disinfected and fumigated	10
Privies disinfected, emptied, and cleaned	4,476
Privy houses cleaned	464
" constructed	23
" disinfected	381
" removed	1
" repaired	212
Privy Vaults connected with sewer	146
" disinfected	23
" filled	155
" flushed	1
" made	103
" repaired	284
Rags (business of storing) discontinued	2
Railings made	56
" repaired	34
Refrigerators removed	8
Roofs cleaned	25
" repaired	287
Sewers repaired	5
Sewer pipes (obstructions in) removed	2.905
" repaired	2,533
" trapped	20
Shafts repaired	3
Shutes (coal) covered	15
Sidewalks cleaned and disinfected	69
" flagged and graded	272
" repaired	244
" reset	317
" trees removed from (number of orders)	4
Sinks cleaned,	10
" constructed	91
" connected with sewer	103
" repaired	33
Skylights repaired	13
Spaces (vacant) cleaned	56
Stables cleaned	25
" connected with sewer	15
" (use of) discontinued	3
Stable floors cemented	41
" graded	41
Stagnant water removed (number of orders).	105
Stairways cleaned and disinfected	37
" repaired	92
Stoops repaired	77
Tanks cleaned	1
Urinals cleaned	7
" removed	5
" repaired	6
Valley drains constructed	109
Vaults cleaned	18
" disinfected	14
Ventilating shafts constructed	54
Ventilators constructed	56
Walls cleaned and whitewashed	367
Walls painted (number of orders)	3
" repaired	92
Water-closets cleaned	175
" constructed	83
" disinfected	175
" flushed	89
" removed	6
" repaired	76
Windows repaired	3
Yards cleaned	1,791
" connected with street sewer	19
" disinfected	1,694
" flagged	194
" graded and repaired	408

Actions for Penalties.—During the year upwards of twelve thousand complaints have been referred to the Attorney for examination and indorsement of the proper form of order required in each case. As heretofore, the great majority of the orders based upon such complaints have been complied with, immediately after notification. The same increase in the number of complaints and orders indicated by the reports of the various bureaux has extended to the legal business of the Board. The number of suits commenced for all causes, is nearly four hundred in excess of the aggregate for the previous year. As a rule, the initiation of legal measures has accomplished the end in view. The effect of the rigorous prosecution of those violating the ordinances relating to reports of marriages, births, the presence of contagious diseases, and death, has been very gratifying, and the statistics derived from such reports are much more exhaustive and reliable than those of former years.

From the marked decrease of complaints under the provisions of the Tenement House Law, it is evident that the buildings known as tenements have been, in many respects, conformed to the requirements of that act. The following is a resume of the work performed by the Attorney:

Number of actions commenced		2961
Classified as follows:		
For non-compliance with orders	2580	
For violations of the Tenement House Act	136	
For violations of the Sanitary Code	245	
		2961

Changes in the Board.—Dr. S. Oakley Vanderpool, having been appointed Health Officer of the Port in place of Dr. John M. Carnochan, whose term of office had expired, took his seat as a member of the Board, on the 27th day of March, 1872. No changes have occurred among the more important officers of the Board, during the past year, and the same efficient corps of Health Inspectors, and of Clerks have remained in the service of the Department, except as vacancies have occurred by voluntary resignation.

Expenditures.—The expenses of the Board for the year ending April 10, 1872, as appears from the report of the Committee on Finance, (see appendix) were $206,815.80. Of this amount about $75,000 were expended in the care of small-pox patients, for vaccine virus and for salaries of the corps of physicians engaged in house to house visitations, for the purpose of vaccinating and re-vaccinating the people. In addition to the above some expenditures for salaries and supplies were referred to the Board of Audit for adjustment. The amounts paid by the Controller on this account do not appear in the report of the Committee on Finance, but may be found in the report of the Finance Department. In all expenditures by the several bureaux, the most rigid economy has been observed by the Board. The Board has been embarrassed in its operations during the past year by the want of money to execute its orders, to prevent the spread of contagious diseases, and to continue a thorough and systematic inspection of the tenement houses of the city.

Respectfully submitted.

J. S. BOSWORTH,
President.

EMMONS CLARK,
Secretary.

APPENDIX.

"A."

REPORT

OF THE

CITY SANITARY INSPECTOR AND SANITARY SUPERINTENDENT.

BUREAU OF SANITARY INSPECTION, HEALTH DEPARTMENT,
No. 301 MOTT STREET.

NEW YORK, *April 1st*, 1872.

EMMONS CLARK, *Secretary to the Board of Health.*

SIR: I have the honor to submit the following report of the work performed by the various officers and employees of this Bureau during the year ending this date.

As in previous years, the work has consisted (1) of the care of contagious diseases; (2) the discovery, examination and removal or modification of all causes deemed detrimental to the public health and safety, and (3) the execution of orders of the Board in pursuance of city ordinances, known as the Health Law of 1866, with its various amendments; the Tenement House Act, and the Sanitary Code.

This duty has been performed by the City Sanitary Inspector, with a corps of twenty-one assistants, of whom ten are recognized as full Health Inspectors, and the remainder as Assistant Health Inspectors, and all of whom, with the exception of two, are educated physicians. In addition to these, the Bureau has had the associated aid of experts in chemistry, engineering, plumbing, sanitary architecture and veterinary science, and is thus enabled to bring to its work—the sanitary care and control of this metropolis—a well organized and efficient combination of professional and practical talent.

The officers attached to this Bureau, by appointment from the Board, are as follows:

CITY SANITARY INSPECTOR AND SANITARY SUPERINTENDENT.

Moreau Morris, M. D.	Elected April 20, 1870.

HEALTH INSPECTORS.

Edward H. Janes, M. D.	Appointed May 30, 1870.
William H. B. Post, M. D.	“ May 30, 1870.
Charles F. Roberts, M. D.	“ May 30, 1870.
Henry R. Stiles, M. D.	“ May 30, 1870.
Augustus F. Viele, M. D.	“ May 30, 1870.
Henry De Witt Joy, M. D.	“ May 30, 1870.
Philip O'Hanlon, M. D.	“ May 30, 1870.
Stuyvesant F. Morris, M. D.	“ July 1, 1870.
Franz Heuel, M. D.	Promoted (vice L. Damainville, resigned).
James Kennedy, M. D.	Appointed (vice W. F. Deming, resigned).

ASSISTANT HEALTH INSPECTORS.

Bernard Hughes, M. D.	Appointed May 30, 1870.
Adoniram B. Judson, M. D.	“ July 1, 1870.
Edward Frankel, M. D.	“ July 1, 1870.
Simeon N. Leo, M. D.	“ July 1, 1870.
Roger S. Tracy, M. D.	“ Nov. 30, 1870.
Henry T. Strong, M. D.	“ June, 1871.
William E. Hall, M. D.	“ Septem. 1871.
A. P. Dalrymple, M. D.	“ Septem. 1871.
Allan McLane Hamilton, M. D.	“ Septem. 1871.
James Ingram	“ May 30, 1870.
James McCarty.	“ June 28, 1870.

ASSISTANT CHEMIST.

H. Endermann, Ph. D.	......

In addition to the above regular corps, several employés have been attached to the Bureau, performing the services of an ambulance and disinfecting corps during the year, whose names are as follows:

Thos. D. Yates.
Bartholomew J. McGowan.
William C. Roberts.
Jno. McNally.

Their arduous and dangerous duties entitle them to special mention.

The amount of labor performed by these gentlemen will be apparent by a reference to the summary or consolidated abstract presented in the Board's general report. The peculiar, diverse, onerous and often dangerously unpleasant nature of their duties, will be appreciated by those who read their individual reports, hereto appended. That these duties were performed with the firmness, tact and courtesy which are so desirable in persons holding responsible official positions, I am well convinced, not only from personal knowledge, but from the voluntary testimony of our citizens.

Several of the present corps were connected with the precedent Board of Health from the year 1866, and all of them, owing to the demands of their position and the various exigencies which have arisen during their term of office, have acquired an experience and facility in sanitary work which is invaluable to any Board of Health and to the community which they serve. It may be accepted as a fact, without egotism, that no other city in the United States, if indeed in the world, enjoys the services of so large, well-trained, experienced, intelligent and earnest a sanitary corps as this. As an evidence of the estimation in which this Bureau is held, both in our own as well as foreign countries, I may mention that there has been almost a daily correspondence seeking advice as to its organization and management in detail.

It is the uniform testimony in the experience of these Inspectors that, during the past year, (as during the year previous,) there has been a very marked improvement in the general sanitary condition of the city; that the people, watching the Board's labors in their behalf, year after year, have learned to regard its officers as their friends, and having been by their repeated visits insensibly educated in the "sanitary alphabet," manifest a greater disposition to improve upon the knowledge thus gained; that owners, house-agents, manufacturers and others, convinced by experience that the powers conferred upon the Board of Health have been, on the whole, wisely and not unjustly administered, now receive its orders and the suggestions of its officers in a more conciliatory spirit, and even admit that their property interests are thereby improved; that, in short, the Board has reached a point in its history from which the results of its past efforts are now plainly appreciable, and from which also it can look forward reasonably to a growing confidence on the part of the community, of increased honor to itself, and of beneficence to the city of its care.

The labors of the Bureau have been much increased during the past year, by the unprecedented epidemic of small-pox, which, commencing during the winter of 1869, has not yet entirely loosened its grasp upon the community. Its persistence has devolved a large amount of wearisome and peculiarly unpleasant and dangerous labor upon the Inspectors, which has been unflinchingly performed, with a devotion and zeal which adds honor to their professional standing.

So many interesting and valuable statistics have accumulated in the experience of this Bureau and its Medical Corps, relative to the sanitary care of this loathsome and fatal epidemic, that I have deemed it advisable to commit the special report upon it to a committee of the Health Inspectors chosen among themselves. They have performed this duty in a manner so careful and creditable, that it leaves nothing for me to add. Their personal experience in the sanitary care of this disease has been unusual and such as entitles their opinions to very great consideration.

About the commencement of the present year a disease insidiously appeared in this and our neighboring cities which caused many victims before its true character was recognized. Epidemic cerebro-spinal meningitis, heretofore unknown as such among the list of epidemics prevailing in our city, and concerning whose etiology, diagnosis or treatment, so little was known among the medical profession, gradually assumed very considerable proportions.

In pursuance of its duty to discover and elucidate its etiology, this Bureau immediately commenced a thorough investigation, to ascertain, if possible, what conditions or peculiar causes had given rise to this new source of alarm. The profession at large, whenever the diagnosis seemed to warrant it, reported their cases to the Bureau.[*] Thus it became cognizant of a large number of cases with all their attending circumstances. These were referred to the several Health Inspectors of the respective districts for examination and report, and many physicians were requested to furnish statements of the symptoms and progress of the disease among their patients, and cheerfully responded, in many instances.

From these examinations, made by our officers at the bed-side; post mortems, and local conditions; and from the statements of physicians, parents, friends, &c., it has been our aim, so far as possible, to deduce the needed data upon which both sanitary officials and the medical profession at large may base their preventive and curative action in any future epidemic of a similar character. The results of these elaborate examinations will be found in a special report on epidemic cerebro-spinal meningitis, in Appendix L, in this volume.

This branch of our duty has been of the highest importance, not only affording us the knowledge of the special localities, keeping us informed as to their increase or decline, but also by being thus forewarned we have been enabled to institute such prophylactic measures as would prevent its uncontrolled progress.

The following is a tabulated statement of contagious diseases, as they have occurred during the past year:

ANNUAL REPORT OF CONTAGIOUS DISEASES FOR 1871–72.

Total Number of Cases of Contagious Disease reported to the Bureau of Sanitary Inspection from April 1st, 1871, *to April 1st,* 1872.

Typhus Fever	146	Diphtheria	432
Typhoid Fever	482	Relapsing Fever	25
Scarlet Fever	2869	Small-pox	2581
Measles	842		

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[*] From the fact that, among the sanitary ordinances of the Health Department, there is one requiring physicians to report all cases of contagious diseases occurring in their practice within a specified time after their first visit. it becomes possible to keep such a record of the number of cases and their localities as to afford information of the utmost value both to the sanitarian and statistician; to the former for purposes of prevention, and to the latter for estimates of proportions of fatality to amount of disease, &c. Without this preliminary information, no Health Board can hope to succeed in arresting or preventing the spread of any epidemic, endemic, or contagious disease. The record of death is but the tolling notice of neglected sanitary opportunities.

SMALL-POX.

Total number of cases reported		2581
Total number of houses in which cases occurred		1993
Number of houses in which	2 cases occurred	219
" " "	3 " "	70
" " "	4 " "	23
" " "	5 " "	5
" " "	6 " "	7
" " "	7 " "	3
" " "	8 " "	2
" " "	9 " "	2
" " "	10 " "	1
" " "	22 " "	1

STREETS CONTAINING THE LARGEST NUMBER OF CASES.

Forsyth street	27	East Fourth street	40
Second street	27	Avenue A	41
East Eleventh street	29	Ninth avenue	41
Eighth avenue	30	Essex street	42
Orchard street	30	West Thirty-sixth street	42
Fifth street	31	Second avenue	52
Broome street	34	First avenue	54
East Houston street	34	Third avenue	60
Greenwich street	36	Third street	68
Chrystie street	37		

HOUSES CONTAINING THE LARGEST NUMBER OF CASES.

247 Avenue A	4 cases	439 West Thirty-ninth street	4 cases
147 Avenue A	4 "	377 Broome street	5 "
95 Chrystie street	4 "	135 East Houston street	5 "
132 Chrystie street	4 "	89 Mulberry street	5 "
87 Clinton street	4 "	106 Orchard street	5 "
5 Clinton street	4 "	256 Bowery	6 "
49½ Dominick street	4 "	324 East Eleventh street	6 "
444 Eighth avenue	4 "	121 Third street	6 "
111 East Fourth street	4 "	430 West Thirty-sixth street	6 "
426 Fifth street	4 "	508 West Fifty-first street	6 "
87 Mulberry street	4 "	62 Essex street	7 "
491 Ninth avenue	4 "	151 Eldridge street	7 "
489 Ninth avenue	4 "	138 East Twenty-eighth street	7 "
469 Second avenue	4 "	345 West Thirty-sixth street	8 "
190 Second street	4 "	532 West Forty-third street	8 "
542 Sixth street	4 "	423 West Thirty-sixth street	9 "
129 Suffolk street	4 "	147 West Thirty-first street	10 "
127 Third street	4 "	R. C. O. Asylum, 5th av. & 51st st.	22 "
210 Third street	4 "		

Number of cases reported from Ward's Island	13
Vagrants	7
Cases on shipboard	6

TYPHUS FEVER.

Total number of cases of Typhus Fever	146
Number of houses in which Typhus Fever occurred	125

TYPHOID FEVER.

Total number of cases of Typhoid Fever	482
Number of houses in which Typhoid Fever occurred	391

TENEMENT HOUSES.

Ventilation and Light.—No section of the Tenement House Act, perhaps, has met with such uniform enforcement as the second section, which provides for the free admission and change of air into the densely crowded dwellings of the poor. Indeed, it has always been felt by the Board and its chief officers that the enforcement of this section was of the first importance. It needs not the repetition here of the homily that pure air and good water are the fundamental elements of health.

The Health Inspector's reports now show that in whole districts there is scarcely a tenement house in which "the bed room and hall ventilation," is not provided in accordance with law—and in most instances not only with the letter but with its spirit. Unfortunately, these means, although well provided, are not always used, for the people do not yet fully appreciate the value of a *change* of air in closely confined apartments, even though it may not be of the purest quality.

Still, as all knowledge is slow to be appreciated, the constant reiteration and enforcement of sanitary truths and facts, gradually overcomes ignorance and prejudice, and establishes a better sanitary condition; and, by promoting health and comfort, soon inculcates a better observance of its laws.

The dwellings in which this most needed measure is yet deficient are reported by the Inspectors principally as old structures, formerly private dwellings, where mechanical difficulties, inherent in the mode of construction, present serious obstacles to its proper introduction. For these, however, the law provides special means, which in many instances have been ordered by the Board, and which have caused such places which before were noted as pest-holes and dens, to become habitable and salubrious.

There is, however, a class of habitations which is beyond the reach of any good sanitary improvement, and which yet remain occupied by those so degraded and immoral in all their instincts, that until further legislation provides a remedy, no other measure than vacating and closing them as human habitations, should be thought of.

Inspectors JUDSON and JANES, particularly, call attention to another class of houses, both new and old, which do not comply with the clause of section 15, requiring that "the halls on each floor shall open directly to the external air," and the former has presented diagrams of floors of two houses in which this omission has been fully considered and secured. Further special legislation is needed with reference to the hall ventilation.

Want of Ventilation in other Buildings.—It is not only in tenements that this insufficiency of these two great health essentials is glaringly apparent. Thousands of private houses, and especially business buildings, offices, etc., having fair and inviting exteriors and comfortably, even luxuriously furnished, are so deficient in a proper quantity and quality of air and light, as to render them breeding-nests of consumption, rheumatism, and other forms of disease.

Brokers, bankers, merchants, insurance men, &c., spend a large proportion of their time in iron-vaulted and stone paved offices and basements, without proper means for ventilation, overheated by uncontrollable furnaces or impossible of proper heating by any means, and so deficient in daylight that the artificial light of gas must be used for two-thirds of the day, destroying or rendering impure all the air to be inhaled.

Book-keepers labor hour after hour, over their dazzling white pages, with the bright light of an Argand burner reflected into their eyes and radiating its heat upon their heads, while perhaps their feet are suffering with the cold and damp of a stone floor, which strikes through mat or carpet. In the whirling rush of business hours, clerks, messengers and customers, enter these cold, damp rooms, in a heated, perspiring condition, with the result of a catarrh or rheumatic twinge that should warn them of neglected sanitary law. It is no wonder that business men are so frequently affected with deafness, baldness, weakness of sight, neuralgia, rheumatism, consumption, indigestion, etc., etc. The "architectural causes of disease," form a most important subject for sanitary study; for their evil effects—although unheeded in the absorbing occupations of money-getting—are obviously beginning to be seriously felt among our business community.

Flats.—The very recent introduction of this class of dwellings, combining every household convenience within a circumscribed space, and demanding from the class of occupants desired for them, superior sanitary constructions, seems to be a step in the right direction towards the ultimate improvement and method of construction for tenement houses for the more indigent class. They certainly secure that degree of privacy and isolation so deficient in the ordinary tenement houses.

Bath-Rooms in Tenement Houses.—The necessity for some easily managed form of bath-room in each tenement house, is again pointedly presented in several of the Health Inspectors' reports. Its advantages would contribute, in no small degree, to the promotion not only of personal cleanliness but largely lessen the danger of the spread of contagious diseases among the community. They would render unnecessary the resort to the free baths upon our river sides, and provide a much cleaner and less dangerous means of purifying the body than the necessity of bathing in our sewer-polluted rivers.

Resident House-keepers in Tenement Houses.—One of the greatest necessities for tenement houses in keeping their local conditions in proper order is the employment of a house-keeper. No less than eight of the Health Inspectors advert to this, while all of them have repeatedly expressed their conviction, from experience, of the value of such services, and are in favor of securing from the Legislature such amendment to the Tenement House Act as will compel their employment in every tenement house in which the landlord or agent does not himself reside.

Cellars and Basements.—The objections urged against the occupancy of cellars and basements as dwelling places, have lost none of their force since previous reports, and the Board has done wisely, during the past year, in causing the vacation and closing of a large number.

PRIVIES AND WATER CLOSETS

Continue to cause a large proportion of the nuisances which call for the action of the Board's officers. Even in this matter, however, there is a very marked improvement; old privy vaults are being abolished; new ones, when built, as well as water-closets, are located, repaired and constructed more under the advice and control of the district inspector; details of construction are more thoroughly canvassed and strictly enforced; ventilating shafts are erected, in many cases, to render vaults less offensive to the inmates of the surrounding dwellings; in short, the experience of the department in its seven years' dealing with these matters, is making itself decidedly felt in the careful consideration of the various points of a practical nature which are involved in each individual case. Landlords and workmen, alike, are made to feel that a superior intelligence supervises the improvement of property and that the Board of Health insists upon maintaining the *spirit* of the law, as well as its letter. This involves, of course, a good deal of time spent by the Inspector in interviews with owners, with the workmen and mechanics engaged, in planning to avoid possible defects and to secure desirable advantages; still, it is time well spent, and sanitary reforms accomplished in this manner redound to the honor of the Board, not less than to the satisfaction of the people.

Concerning the relative merits in a sanitary point of view, of privy vaults and water-closets, the testimony of inspectors does not differ from that already expressed. Privy vaults are considered less objectionable for tenement, and water-closets for private houses. The "school-sink" described in the last annual report, is growing steadily in favor with those who examine its operation. The fact is, however, that the difficulties pertaining to this subject are inherent in the habits and character of the people who inhabit tenement houses. Patience, time, labor, example, will, it is hoped, ultimately accomplish the desired reform.

SEWERAGE

Has largely engaged the attention of the inspectors in their respective districts, and we are happy to state that the prompt and courteous co-operation of the Department of Public Works, has added considerably to this class of sanitary improvements; Inspector VIELE's report mentions "a very decided improvement in the construction of street sewers inaugurated by the Department in the construction of *spurs* from the main sewer to the curb-line of the street, thus avoiding the necessity of tearing up the pavement and opening the street whenever sewer connection is required to be made with the dwellings," and also in the construction of a large main outlet sewer in 110th street, as referred to in his report.

The sewerage of the upper part of the city is now rapidly progressing, and bids fair, by the combined efforts of Sanitary Science and Scientific Engineering, to avoid the perpetuation (in that part of New York) of the evils which a neglect of proper precautions in the past has entailed upon its older portions.

HOUSE SEWERAGE.

On this question the officers of this Bureau are fully alive to the serious defects and neglects which have caused so much disease and death. "The defects in soil-pipes," says Inspector O'Hanlon, "are very general and require a thorough overhauling, very few houses being free from the escape of noxious gases from the street-sewers, owing to imperfect joints in the soil-pipes and the careless manner in which house drains have been constructed." A decided improvement, in addition to tight and properly cemented drains, would be the extension of the soil-pipe to and above the roof of the house, so as to allow the sewer stench and gases to escape into the external air at an altitude at which they would prove comparatively innocuous. We say comparatively, for even then, we doubt whether their presence in the superincumbent strata of atmosphere does not tend to vitiate the air we breathe.

Some of the inspectors, also, complain of cases where three, four, or even eight and nine houses are sewered through one common sewer pipe connection, any obstruction in which, of course, affects the comfort and health of the inmates of all the houses. These, however, are gradually being replaced by separate house-drains, connected with the street sewer, on orders of the Board, wherever the sewerage of the street will allow.

We have alluded above to the imperfect and improper manner in which the very important mechanical operations, classed under the generic name of "plumbing," are carried on in this city at present. The attention of the Board's officers is called to it too frequently, and with an amount of personal daily observation too extensive and accurate to admit of mistake or dispute. It is not too much to say that *three-fourths* of the complaints investigated by the inspectors, and at least *one-half* of the ill-health, discomfort and death occurring in this city from zymotic and epidemic diseases, is attributable directly to the reckless, unscientific and dishonest manner in which plumbing work is performed. The state of things revealed by the daily investigation of this Bureau, form a sufficient and damning proof of what might otherwise seem a sweeping charge. Poor material; poorer and careless workmanship; an utter lack of foresight, or care, as to the probable result of these evils, have characterized the introduction and repair of water, gas and sewerage improvements to our houses and homes, until intended blessings have been turned to absolute curses. Neither the houses of the wealthier class or the homes of the poor are exempt from these defects in the construction of their drainage systems. During the present year, the outbreak of the "Cerebro-Spinal-Meningitis epidemic" has forcibly called public attention to the defects which long ago attracted the notice of our sanitary officers, and the intimate connection which the latter have been able to prove between many cases of diseases, and defective plumbing or imperfect sewerage, should lead to a more careful personal examination on the part of every property owner.

In view of the vital interests involved, it seems highly desirable that, as Inspector MORRIS suggests, "the Tenement House Law be so amended as to give to this Board the control over the sewerage and plumbing of every tenement house about to be constructed."

Drainage, in distinction from sewerage, is, if possible, of greater importance to the future sanitary welfare of the city, than is generally understood. The distinction between drainage and sewerage is, that the former provides means for keeping the lower portions of the soil from becoming saturated, while the latter only provides for the proper disposal of surface and waste water from our houses and streets. While the lower strata of soil underneath our houses remains water-saturated, a constant evaporation is going on, which by means of capillary attraction and heat is brought up to the surface, rendering our walls, basements, and even upper rooms, damp and unwholesome; this dampness produces fungoid spores, which germinate in our systems, causing fevers, &c. Distributed over this Island originally were many streams of water, in connection with sluggish ponds and marshy lands lying in its central portions. From time to time these have been filled in and across by the grading of streets and avenues, with earth or the debris of the streets of the city, so that large sections have been reclaimed from the bordering marshes, and the inland ponds and their out-flowing streams have been filled up or dammed across. The result of this improper method of filling in and obstructing the natural streams of water, has been to pond them, and thereby produce *a water saturated soil*, over which dwellings have been constructed, and in which the inhabitants constantly suffer and will continue to suffer from various diseases, such as fevers of an intermittent or typhoid type, rheumatism, neuralgia, &c.

The older and more completely built-up portions of the city now present many lamentable examples of this want of foresight. Certain sections of the city where originally were marshes or sluggish streams, which have been covered up and built upon, now present us fever nests, and are the first to suffer from diseases which certain atmospheric conditions produce. These are strikingly shown upon a map of the city where these old streams or marshy ground are distinctly laid out. The recorded deaths by fevers, consumption and malarial or zymotic causes, where placed upon the map, indicate almost unerringly these old water-saturated localities, and present indisputable evidences of the unhealthy conditions caused by them.

In the upper portions of the city above 50th street, these old water courses have in many instances during the past year been re-opened, and substantial sub-soil, deep, blind drains put in, in accordance with the Law passed in 1871 for that special purpose. A very marked instance of the benefits derived from the application of this law during the past year, is in the draining off of that section of land lying between 74th and 80th streets from 1st to 5th avenues, where whole blocks were covered with stagnant water, in some places several feet deep. Around this section, fevers had prevailed during several years past, and any improvement in the way of buildings had been almost abandoned. During the year a drain has been constructed by order of the Health Department, by the Department of Public Works, beginning at 1st avenue and 74th street and extending nearly upon the course of the original stream diagonally to 5th avenue and 80th street, which has completely removed all the stagnant water and provided for it a permanent outlet. The land so drained is being now rapidly covered with buildings and dwellings of all kinds, and has increased more than thrice its original value. Such also has been the effect of a similar drain put in between 4th and 5th avenues from 59th to 65th streets, where the same conditions existed.

The good effect of drainage done in this manner can hardly be sufficiently appreciated. It not only provides an immediate outlet for accumulated stagnant water, but also serves as a permanent means for keeping the soil in a dry state, as no accumulation can hereafter take place either by surface water or by never-failing springs. Grounds that otherwise would always remain unhealthy and cause much sickness and death, now become healthy and make most desirable locations for future residences.

These experiences and facts should point out the errors to be avoided in planning the drainage and sewerage systems for future cities and villages, and should not be lost sight of even in the location of isolated dwellings in country places; and every person about to purchase a permanent residence should look carefully to the system of drainage and sewerage connected with the premises.

GARBAGE AND ASHES.

In regard to this subject, we have reason to feel that some degree of improvement has been made. The gradual abolition of the large stationary sidewalk garbage boxes, by the substitution of portable metal receptacles, has produced a commendable degree of improvement in the appearance of our streets and in the comfort of our citizens. Still, much remains to be done. We rest a hope for the future largely upon the thoroughness and fidelity with which the collection of ashes and garbage and street-cleaning shall be performed by the Board of Police, to whose charge it was committed by the last Legislature—for *street-cleaning* is the basis of reform in the ash and garbage question, as good *street-paving* is the basis of proper street-cleaning.

STREET CLEANING,

During the past year, has been far from satisfactorily performed. No extra street-cleaning, under the supervision of the Board, was performed during the past year, and the streets generally have been in a condition highly discreditable to the city. The abrogation of the old street-cleaning contract and the placing of this important department of the public service in the hands of the

Police Board, is a step in the right direction, and we may now reasonably expect a more creditable condition.

STREET PAVEMENTS.

Defective street pavements are and have been one of the greatest sources of unhealthfulness and difficulty of keeping clean streets. For the rule holds good that where the streets are well paved, both the health and sanitary condition of the neighborhood is improved.

YARDS, ALLEYS AND AREAS,

Engage the special attention of the Health Inspectors, and many decided improvements have been made. A good pavement, with proper drainage, induces and promotes a cleanly condition, and thus prevents their being used as places of deposit for refuse matter.

STABLES

Still show the good effects of the special overhauling given them, under order of the Board, a year ago; and, as they are constantly watched by the health officers, are generally in fair condition. The prompt removal of stable manure is the earnest endeavor of the Board, in order that the various interests involved in the disposal of this offensive material may be harmonized in such a way as shall best protect the sanitary interests of the city. The reports of Inspectors LEO, JANES and HAMILTON, whose districts are peculiarly afflicted with this class of nuisances, will serve to show the extent and character of the evils with which the Board has to deal.

MANURE DUMPS, ETC.

The depositories for this material have been and are sources of great anxiety to the Board. Its officers have endeavored to control and mitigate the evils attending these large accumulations in every way that could be suggested, and the Board has issued orders from time to time for its entire daily removal from the city, but so far has failed to accomplish such desirable results completely. Such a measure as the entire daily removal of all the stable manure from the city can be effected only by a combination of interests with sufficient capital.

STREET CARS.

Some of the Inspectors call attention to the dangers attendant upon street railroad travel; as, for example, Inspector LEO particularizes the recklessness of employés in regard to the crossing at 30th street and 10th avenue, where the "Belt Line" cars cross the track of the Hudson River Road; and, also, the too great speed generally maintained on the Eleventh Ave. Railroad. All the roads, except the "Bleecker St." line, have thus far neglected to provide any guards for front platforms, and accidents are constantly happening to foolhardy persons who persist in jumping on or off from them while in motion. The means for *ventilation* are unscientific and inefficient. The causes of defective ventilation, and the very great influence which these cars have in the dissemination of impurity, and especially of contagious disease, are well stated in Inspector JANES' remarks upon this subject.

The recent enactments of the Board, with reference to these needed improvements, are entirely neglected by the railroad companies, and can be enforced only by legal pressure.

PUBLIC FREE BATHS.

These baths, which were thrown open for general use last summer, seemed to meet with general approbation, as affording a means for free bathing. But their utility, as a sanitary measure, is more than questionable. The adjacent margins of the rivers, upon either side of the city, are so largely polluted with the constant flow of sewerage into them from the sewer outlets, that the water, both in public and private bath-houses, is almost always thoroughly saturated with animal and vegetable matter in a state of decomposition. The slips formed by the projecting docks, are but whirling eddies, in which this sewerage matter floats and sinks, being only partially carried away by the tides. There is every reason to believe, from a multitude of facts which have come under medical observation, that frequent bathing, in this sewer-polluted water, so far from promoting healthful conditions, has been productive of much disease, the cause of which may, without doubt, be attributed to the direct poison absorbed into the system while bathing. Medical gentlemen, in whose practice this class of persons largely predominate, have recognized this fact, viz: the absorbtion of a direct poison into the blood while bathing in and about our slips and docks. One medical gentleman, of recognized ability, states that he has attended over one hundred cases of a peculiar low form of fever which he attributes directly to this cause. There may be, and unquestionably are, other causes having also an influence in producing these effects, such as remaining in the water too long, or bathing while in a heated condition, &c., but the absorption of the poisons of the decomposition of sewerage cannot be too strongly guarded against.

That free baths should be provided for general public use, as a sanitary measure, there can be no question, but the selection of their location is a matter of the highest importance. The water supply needs to be constant, ever-changing and of the greatest purity. It should be obtained either from the centre of the rivers, by mechanical means, or from the croton supply, so that no sewer impurities would be in the least degree intermixed.

DISINFECTION, ETC.

The processes of disinfection of streets, and in cases of contagious diseases, etc., were so minutely detailed in my last annual report, that no repetition is here needed. I will simply refer, therefore, to the report of Dr. ENDERMANN, Assistant Chemist to the Board, (which follows the reports of the Sanitary

Inspectors) for the statistics of work performed by the Disinfecting Corps, under his direction, as also for the results of a series of examinations made into the composition and comparative sanitary value of various forms of disinfectants in general use.

SLAUGHTER HOUSES, FAT RENDERING, ETC.,

Call for a great amount of ceaseless vigilance on the part of the Inspectors in whose districts they are located. Ever since the creation of a Board of Health in this city, there has been a fierce struggle between business interests and moneyed influence on the one part, and the highest sanitary demands of an overcrowded community on the other; and whatever advantages the Health Department has gained in the contest, are only maintained by a most stringent and vigorous enforcement of its rules and regulations. Its officers are unanimous in their conviction that there are "certain evils connected with the business of slaughtering that will not be entirely remedied so long as the business is conducted in occupied portions of the city," and that, to use the words of Inspector JANES, "the sooner this business, with *fat-rendering*, *tripe-cleaning*, and *every kindred occupation*, is confined to properly constructed waterside *abattoirs*, on each side of the city, the sooner will our citizens be relieved of an offensive nuisance." Inspector LEO, who has the district in which are situated the Rendering Dock, and large fat and offal melting establishments between 38th and 42d Sts., on the North River, goes even farther than this, and says, "one thing is quite evident—it should not be tolerated within city limits." He also condemns "the practice of certain packing houses, which place dirty cases and barrels in the gutter and road, and crowd the sidewalk with dead cattle, hogs, fat and grease; have horses and carts backed up to the door and standing for hours together, etc."

PUBLIC MARKETS.

These necessary depots have been greatly improved in respect of cleanliness and detail of internal regulation, during the latter portion of the year, which is owing mostly to the personal care and experience of the veteran marketman, Col. Thos. F. DeVoe, lately appointed to the Superintendency of Markets. To the extent of his official powers and ability, he has regulated the markets to a certain degree; but so long as the present old rookeries are allowed to remain, no further improvement need be hoped for.

The new "Manhattan Market" at the foot of West 34th Street, aside from being an architectural ornament to the city, has certain facilities for cleanliness and drainage, which commend it to general notice and approbation, and furnishes another proof that the interests of this city are frequently better promoted by private enterprise than corporate authority.

DOCKS AND PIERS.

These have been kept in an unusually clean condition during the past year, although the Department of Docks has not enabled us to chronicle that degree of progress in the reconstruction and improvement of our water-front which we had reason to hope.

PRIVATE DWELLINGS.

Our Inspectors, as a general rule, rarely visit so called "private residences," officially, except on some specified complaint, demanding their attention. Occasional visits, however, afford them opportunities of observation; the results of which are frequently surprising to themselves. The statements made from their own experience by Inspectors LEO, VIELE and JANES, in their reports, are, of course, not applicable to *all* of the better class of private dwellings; yet, there is too great reason to believe that the neglect of sanitary conditions by the dwellers in many of the better class residences, is, in many cases, as apparent as in some of the poorer class of domiciles. A more rigid, and frequently repeated system of domestic inspection should be maintained by heads of families throughout their premises. The neglect, slothfulness and wastefulness of servants, is largely responsible for much of the discomfort and disease from which the family is liable to suffer.

Respectfully,

MOREAU MORRIS, M. D.,
City Sanitary Inspector and Sanitary Superintendent.

FIRST SANITARY INSPECTION DISTRICT.

INSPECTOR, JAMES KENNEDY, M. D.

DISTRICT—*From corner of Canal street and Broadway; down Broadway to Pier No.* 1, *North River; thence up West street to Canal street; thence up Canal street to the place of beginning, including a portion of the First and the whole of the Third and Fifth Wards.*

MOREAU MORRIS, M. D., *City Sanitary Superintendent.*

SIR: I have the honor to report that I entered on the discharge of my duty as Health Inspector of the First District on the 17th of August, 1871.

The topography of the First District is quite interesting. East of West Broadway, from Canal street to Chambers street; thence to Greenwich street, and down Greenwich street to the Battery, the ground is high, mostly occupied by fine stores. Unfortunately for the west side, the ground is low, (mostly made ground) in consequence of which, the cellars and basements are always damp and often wet, and of course ought not to be used for human habitation.

It is to be hoped that humanity and a better knowledge of the laws of health and of longevity, will cause a change in the style of. architecture in this part of the city, so that the poor shall not be obliged to suffer from disease as well as poverty, nor to entail on their progeny premature death.

Cleanliness and pure air are two very important elements in Sanitary Philosophy; and, for the purpose of obtaining these ingredients, regard must be had to the removal of all obstructions. I am aware that in a portion of my district it is a very difficult matter to obtain this desirable object, (pure air) and it is not the fault of the tenants so much as of those in authority.

The tenant may be ever so vigilant (and there are many such) in collecting whatever dirt may accumulate and putting it in a vessel on the side-walk, awaiting the *dirt cart*, and it may remain there for days and for weeks.

It is a fact patent to all inspectors, that the chief cause of dirty streets, filthy gutters, obstructed side-walks and piles of matter in other places, containing the germs of disease and death in the shape of decomposed and decomposing animal and vegetable substances, is to be found in the accumulation of garbage and filth for an indefinite length of time in various locations. And this state of things will continue, so long as "dirt-cartmen" are allowed to do as they please; come when they please; take what they please; abuse the citizens as much as they please, and as often as they please.

The Street Sweeping Department should receive due consideration, and if possible, be improved. As it has been performed for some time past in the First District, it is simply an imposition on the good nature of the citizens and an abstraction of funds (perhaps unknowingly) from the City Treasury, already in a state of depletion.

Sewerage should be matter of serious consideration by those who have the guardianship of the health and life of the citizens of New York committed to their care. Many of these underground passages are continually sending forth mephitic gases, endangering the health and life of thousands of the citizens of this Island.

I have made the following inspections:

Tenement houses	500
Stores, manufactories and cellars	400
Wharves and piers	100
Private houses	350
Market stands, &c.	150
	1500

Respectfully submitted,

JAMES KENNEDY, *Health Inspector.*

NEW YORK, *April* 1st, 1872.

SECOND SANITARY INSPECTION DISTRICT.

ASSISTANT INSPECTOR, BERNARD HUGHES, M. D.

DISTRICT—*The Eighth Ward.*

MOREAU MORRIS, M. D., *City Sanitary Inspector.*

SIR: In obedience to your instructions, I would respectfully submit the following report, showing the general condition of the Second Sanitary District for the past year. This district, comprising the entire Eighth Ward, is largely devoted to mercantile and manufacturing purposes. The population of the eastern portion is rapidly diminishing; as the tide of business progresses up town, dwellings disappear, and costly and substantial warehouses take their places.

During the year 1870, Section Second of the "Tenement House Act" had been so rigidly enforced as to cause but few complaints. It is very gratifying to note the change in the general condition of the halls, stairs, alleys and yards of these dwellings. On account of the rigorous enforcement of sanitary measures relative to these parts of the tenements, housekeepers have, in many instances, been selected by the owners or agents, to exercise a general supervision of the premises and require from the occupants an increased observance of household cleanliness. I am glad to state that there is a marked diminution in the number of complaints of the yards and alleys filthy from accumulation of refuse.

Cellars and Basements.—There are comparatively few cellars used for human habitation, and those so occupied are well provided with light and ventilation. In Greenwich and Houston streets many cellars, which were totally unfit for habitation, have been vacated and permanently closed by order of the Board.

Privies and Water Closets.—The neglect of privies is a nuisance of not uncommon occurrence. If the privy vault is connected with the street sewer the soil-pipe is frequently obstructed in consequence of the tenants throwing ashes, garbage, &c., into it. I have frequently found the privy vault filled to the top with offensive matter by reason of the soil-pipe being obstructed by some foreign body. When there is no connection with the street sewer, or in portions of the streets where there is as yet no public sewer, the vaults are sometimes found filled up even with the seat. Water closets in large tenement houses are generally found in a very filthy condition. In my opinion school sinks or privy vaults are far more desirable for such dwellings.

Stables.—A marked improvement is noticed in the condition of the stables. The owners and occupants, in almost every instance, manifest an earnest desire to comply with the rules of the Board and adopt any suggestions given them; the consequence of which is that I have had but one-third the number of complaints of the previous year.

Streets.—The streets of this District, during the summer, were kept tolerably clean, but, during the winter months garbage and filth have accumulated to an alarming extent, owing to the neglect of the contractor in not removing it with any degree of regularity—so that at the present time they are in a fearfully filthy condition, and liable at any time to breed a pestilence. South Fifth Avenue is, as yet, unpaved, and is covered with filth of every description.

Contagious Diseases.—Small-pox and Scarlet-fever have been the leading contagious diseases demanding the attention of the Board during the past year. Whenever cases of Small-pox have been reported, the Inspector visited the premises immediately, and the patient, if thought advisable, was removed to hospital, after which the premises were thoroughly fumigated, disinfected and cleaned. Vaccination was freely employed in the infected and neighboring houses.

SUMMARY.

The following table exhibits the work performed by me during the past year:

INSPECTIONS AND REINSPECTIONS.

Tenement houses	2346	Stables	135
Private dwellings	92	Yards, areas and alleys	63
Boarding-houses	12	Sidewalks and street-gutters	110
Cellars and basements	140	Waste-pipes and drains	55
Privies and water-closets	351	Cess-pools	2
Factories and workshops	45	Vacant lots	7
Fat-rendering establishments	4	Piers and vessels in harbor	3

COMPLAINTS FORWARDED TO THE BOARD FOR ACTION.

Tenement houses	112	Vacant lots	3
Private houses	16	Sidewalks and street-gutters	39
Cellars and basements	27	Stables	19
Yards, areas, &c	17	Waste pipes and drains	22
Privies and water-closets	133	Cess-pools	2
Factories and workshops	8	Violation of Code	4

CONTAGIOUS DISEASES.

Variola and varioloid	106	Scarlatina	37
Varicella	12	Typhoid fever	6
Rubeola	15		

Number of houses visited on vaccinating duty	71
Primary vaccinations	18
Secondary vaccinations	131
Number of visits made to isolated cases of small-pox	40

Respectfully submitted,

BERNARD HUGHES, M. D., *Assistant Health Inspector.*

NEW YORK, *April* 1st, 1872.

THIRD SANITARY INSPECTION DISTRICT.

INSPECTOR, S. F. MORRIS, M. D.

DISTRICT—*Bounded North by West Fourteenth street; East by Broadway; South by West Houston street, and West by the North River.*

MOREAU MORRIS, M. D., *City Sanitary Inspector.*

SIR: I have the honor to submit the following report of labor performed during the past year.

Since my last annual report, the chief change in the character of the District has been in the increased number of tenement houses erected, especially in the Ninth Ward. These are, in most instances, a great improvement over the old style of tenements. Still, I have already had complaints against them, "on account of the escape of offensive odors from the sink basins," which are for the most part situated in the kitchens. This, as is well known, is a most fruitful source of disease. The cause of these offensive odors is chiefly due to the defective arrangement of the pipes and the poor quality of the plumbing.

Each sink basin connects with a common waste-pipe, and although there is generally a stench trap to each sink, too frequently this trap is totally useless, being an ordinary piece of lead pipe with a *very slight* curve, unable to retain any water. Consequently the offensive odors and gases from the refuse in the whole pipe, and often from the street sewer, that, too, being unprovided with a *suitable* trap, if any, are allowed to penetrate the rooms. In those instances where an efficient stench trap has been provided, the benefit has been marked. In all cases this will not effect entire relief, but where the remedy has been applied *as ordered*, no second complaint has reached me. Several instances of disease and death have recently been reported where the cause clearly was due to defective sewerage and poor plumbing. To cover this ground, I would recommend that the Tenement House Law be so amended as to give this Board control over the sewerage and plumbing of every tenement house about to be constructed.

With the single exception above noted, the condition of the tenement houses has been excellent.

The condition of the streets has been very good in those parts of the District which do not require much cleaning; but, in certain streets, (*e. g.* Horatio, part of Washington, Little 12th, &c., &c.,) the streets have been filthy. The ashes and garbage in the above-mentioned streets are allowed to accumulate for days at a time. Most of the tenement house owners have been compelled to provide "suitable and separate receptacles for garbage and ashes," but these in no way assist in keeping the streets clean, owing to the *irregularity* in the removal of the garbage, &c.

Would that the power which is invested in this Board might be amplified but a little, that it should be made to embrace so all-important a subject as the *proper* cleaning of the streets and disposition of the garbage and refuse.

Most of the "Factories and Workshops" have complied with the requirements of the sanitary code and have applied apparatus to consume the smoke. The benefit is very marked.

The Plaster of Paris Mills and Limekilns mentioned in my last report, are still as great nuisances as ever.

The old dumping ground at the foot of Gansevoort street has undergone a great transformation. It has been filled in and graded, a bulkhead has been built, and the ground is occupied by three workshops, (or storehouses) of the Department of Docks. What was once a great nuisance and a most frequent source of complaint, is now a credit to the city.

SUMMARY.

Appended is a tabular statement of the inspections, reinspections, &c., performed by me:

Tenement houses	1712	Public buildings	6
Private dwellings	287	Cellars and basements	19
Stables	253	Streets, gutters and sidewalks	69
Privies and sewers	78	Piers and dumping-ground	8
Stores and manufactories	149	Miscellaneous buildings, &c.	20
Fat-rendering establishments	13	Total	2614

CONTAGIOUS DISEASES.

Small-pox	198	Cerebro-spinal meningitis	11
Scarlatina	15	*Chicken-pox	12
*Measles	2	*Acne, &c	4
Typhus fever	3		
Typhoid fever	6	Total	251

*Those marked thus were reported small-pox.

Vaccinations—Primary	18
" Secondary	198

THE FOLLOWING COMPLAINTS HAVE BEEN MADE:

Tenement houses	148	Factories and workshops	5
Private dwellings	12	Cellars and basements	3
Stables	16	Miscellaneous	11
Privies and sewers	76		
Street-curbs, gutters and sidewalks	40	Total	311

Respectfully submitted,

S. F. MORRIS, M. D., *Health Inspector.*

New York, *March* 15th, 1872.

FOURTH SANITARY INSPECTION DISTRICT.

ASSISTANT HEALTH INSPECTOR, A. P. DALRYMPLE, M. D.

District.—*Bounded by Twenty-sixth street; Fourteenth street; Sixth avenue; and Harlem River.*

Moreau Morris, M. D., *City Sanitary Inspector.*

Sir: I have the honor to transmit to your Bureau the result of my labor, and the summaries of such labor, from September 6th, 1871, to date.

First, however, I beg to preface it with the accompanying special report of duty performed for the Board of Health, as one of the Vaccinating Corps, from March 12th, 1871, to August 31st, 1871.

The 6th, 7th, 10th, 16th and 20th Wards, comprised the field of my work on vaccination; and, during the above period, I performed 594 primary and 1.030 secondary vaccinations, mostly in house-to-house visits.

The seeming (numerically) small amount of work is readily explained, when I state that to perform this number of vaccinations, it required my visits to ten thousand three hundred and four (10,804) families.

At that period, strong prejudice and wholesale refusal met the Inspector in hundreds of families, where now almost a universal welcome greets his presence in those same families.

The happy and successful results of vaccination, and the excellent and pure quality of virus used during the past year, have removed their prejudices; and thus, in addition to the work of vaccination a great victory has been won.

Appreciating the great value of vaccination to medical science, I was careful to ascertain what percentage of these vaccinations was successful; hence, I revisited my cases generally on the eighth day, and am pleased to give these satisfactory results:

SUMMARY TABLE OF VACCINATIONS.

Primary vaccinations	594
Secondary vaccinations	1030
Total	1624

Successful primary vaccinations	90 per cent.
Successful secondary vaccinations	75 per cent.

Having received a regular appointment as Assistant Health Inspector, September 6th, 1871, I was assigned to the Seventh Sanitary District, comprising all that territory from 59th street to King's Bridge, and from 6th avenue to the Hudson River, for the short period of two weeks. I had only time to make a superficial survey of the work to be performed, and hence can only give this District a passing reference. The topography of this part of the Island, in many places, remains in its primitive condition, with successive acclivities and depressions. The acclivities are dotted with the squatters in their squalid shanties. The rocky beds of these intervening water-basins are covered with a stagnant water, only disappearing by evaporation, which produces a vast amount of sickness to the surrounding inhabitants. The engineer and the laborer are the only physicians who will in time radically remove these sources of disease.

Added to this cause of so much of malarial fevers in this District, is the vast number of new avenues and streets which are being opened, exposing a vast amount of new earth and decaying vegetation. In southern cities such improvements are suspended during the Fall months.

By your kind permission, a mutual exchange was made with my successor, Dr. A. McLane Hamilton; and September 18th, 1871, I was transferred to the Fourth Sanitary District.

Tenement Houses.—Most of these are of the "English Basement" order; there being no basements, the cellars are only used for wood and coal. The high-stoop tenements have basements generally which are occupied by families, and which are constructed in compliance with the Tenement Laws of New York, (1867), Sections 6 and 7.

The most objectionable feature of tenement houses at present, is the building of two on the same lot, one front and one rear, which involves the super-added nuisance of having the privies located in the middle space, or area.

The air in these areas is always impure, from the noxious gases arising from the privies, and, even without these necessary nuisances, the air is too confined for the proper supply of human beings.

Local Superintendents.—The utter neglect of the masses to keep their rooms, hallways, yards, sidewalks and street gutters in a cleanly condition, (for no particular tenant is responsible for the whole building,) is constantly visible in every tenement house, and a marked improvement is always apparent in regard to neatness and cleanliness where the landlord resides on the premises.

Such legislation should be instituted as to require landlords to make one of the tenants in every tenement house responsible for its proper sanitary condition.

Privies.—There has been a great improvement in these in my district. I found the great majority of those connected with tenement houses in a foul and filthy state. No attention had been paid to their being emptied or obstructions removed.

I notified, personally, many landlords, and sometimes a formal complaint was necessary to remedy this nuisance.

Cellars and Basements.—These I found, in many instances, needed thorough cleaning and disinfecting. The landlords generally attended to the warnings of the Inspector, so that I have been under the necessity of making, against cellars and basements, but 35 complaints.

Ashes and Garbage.—To have proper receptacles for ashes and garbage, furnished for tenement houses, has been one of the most difficult tasks to perform. Of the 197 complaints against tenement houses, a large majority were specially in reference to the violation of Tenement Laws, N. Y., 1867., Chap. 908, Sec. 8, and San. Code, Sec. 90 and 91. I have succeeded in a great measure in carrying out the laws, and the orders of the Board of Health in regard to these required receptacles of the various kinds furnished. I am satisfied the galvanized metal cans are the best. They are portable, do not rust, are easily kept clean, and do not become offensive, as they absorb no moisture.

Streets.—Fortunately private houses are in the majority on most of the streets, and there are many good class tenement houses on other streets; still, there are enough of the poorer class which require constant supervision, for there the streets are found in a filthy condition. The first cause of the bad condition of the streets is, that street cleaning is unknown for months at a time. The second cause is the throwing of ashes, garbage and all kinds of filth in the streets and gutters. The third cause is, that ash carts do not make their visits in the dirtiest streets oftener than once a week, to remove the accumulating mass. This evil exists, to the greatest extent, in 16th, 17th, 18th and 26th streets, between 9th and 10th avenues. Also, on 19th street, between 7th and 8th avenues; and those parts of 9th and 10th avenues between 10th and 14th streets. Contractors for removing ashes and garbage should be held to the strictest account, for the perfect fulfillment of this daily duty.

Fat-Rendering Establishments.—Several of these have special permits from the Board of Health, for conducting their business, and others have their applications before the Board; having been carefully examined, and found in accordance with the requirements of Sanitary Code, Sections 78 and 165.

Stables.—There are many small stables in this district, where I find no manure vaults. These parties have been notified to comply with such instructions as is necessary to meet the proper sanitary regulations.

The large stables have generally complied with all the requirements of the Board of Health, and have large manure vaults and proper drains, stables cleanly and in good condition.

Contagious Diseases—Scarlatina.—I found Scarlatina endemic in two localities in my district, in October and November, 1871. One locality was between 330 West 25th street and the 9th avenue, and confined wholly to the south side of the street.

Here the disease had been confined for two months, and several deaths among children had occurred. Not being reported at first, I found them in the course of my routine inspection. The other locality was in 19th street, just west of 7th avenue, but the cases were not so fatal. Isolation, and disinfection were immediately adopted, with scrupulous cleanliness, and almost immediately the disease disappeared, and has not returned.

The virus of this disease is no doubt very volatile; not retained in clothing as the virus of variola, and is readily destroyed by disinfectants.

Rubeola and Pertussis.—These cases have been few in number, and mild in degree.

Variola and Varioloid.—This virulent disease which has been epidemic over the civilized world, has not been so dreadful a scourge here as in many other cities; at the same time it has left its deadly trail in the palace and the hovel alike.

> " *Variola œquo pulsat pede pauperum tabernis.*"
> " *Regumque turres.*"

This disease, in the Fourth District, has numbered comparatively few cases, and the mortality has been small.

It has been met at the threshold of every dwelling, when reported to your Bureau, the moment it appeared, and oftentimes, repelled; or at most, found only one victim to feel its attack. There have occurred in this district since September 18, 1871, 22 cases of this disease, to date; 12 of which have been detained at their homes, and not one of these isolated cases has died. These have been under my sanitary supervision; vaccination, stringent isolation, and disinfectants were at once used. I saw the cases every few days, and satisfied myself that all sanitary instructions were properly followed. As soon as the patients were well or sent to hospital, the rooms, bedding, clothing and everything capable of retaining the virus were disinfected and fumigated; and I am proud to say there is not an instance of the second case in any of the dwellings where these 22 cases occurred; which must be one of the strongest proofs of the value of such sanitary measures to the arrest of this disease, and to the protection of health and life.

SUMMARY.

The following tabulated statement exhibits the work performed by me during the period to which this report refers:

INSPECTIONS AND REINSPECTIONS.

Tenement houses	2265	Stores, factories and public buildings	172
Boarding-houses	16	Fat-rendering establishments	12
Private and other dwellings	187	Stables	177
Cellars and basements (special)	33	Sunken and vacant lots	136
Privies	1648	Sewers (special)	1
Streets (special)	16		
Horse cars	30	Total	4693

SUMMARY OF CONTAGIOUS DISEASES.

Variola and varioloid	38	Pertussis	7
Scarlatina	30	Typhoid fever	6
Rubeola	5	Total	106

SUMMARY OF COMPLAINTS DURING THE SAME PERIOD.

Tenement houses	197	Privies	45
Private and other dwellings	14	Stables	11
Cellars and basements (special)	35	Pig-pens (special)	4
Fish and oyster markets	2	Fat-rendering establishments	3
Coal yards	1	Lumber yards	1
Factories and workshops	2		
Streets (special)	16	Total	331

All of which is respectfully submitted.

A. P. DALRYMPLE, M. D.,
Assistant Health Inspector.

April 1st, 1872.

FIFTH SANITARY INSPECTION DISTRICT.

ASSISTANT INSPECTOR, SIMEON N. LEO, M. D.

DISTRICT—*Bounded by 26th and 40th Streets, Sixth Avenue and the North River.*

MOREAU MORRIS, M. D., *City Sanitary Inspector.*

SIR:—I beg to submit the following report of the Sanitary District embracing the Twentieth Ward, to which I have been assigned during the past year.

Property owners and landlords, in general, seem to better understand, that Sanitary Science, and its proper application, is essential for the preservation of health in crowded sections of the Metropolis; and that a disregard of its laws is likely to promote the invasion of disease, and to cause depopulation and exodus from their premises, with a consequent deficit in pecuniary returns. It is to this cause, perhaps, more than any other, that we are indebted for the markedly prompt manner in which the orders of the Board have been complied with during the past year. My simple suggestion has often proved sufficient to secure immediate attention. As a result, much better feeling has been cultivated, and I note, with pleasure, that those interested seem sensible of the obligation they owe, not alone to themselves, but to their tenants and the community at large.

The *Tenement Houses* of this district continue to invite special attention. The greatly increased value of land in this city, seems to develop a general tendency to build not only on the front of a lot, but likewise to make additional profit by the erection of a building on the rear of the same piece of ground; and ere long a serious evil will be found to exist in the too close proximity of tenement buildings.

Our increase of population, the size and peculiar formation of Manhattan Island, with our present modes of transit, seem rather to favor this new aspect of affairs. In certain European cities, attention is now being directed to residences for the working classes; and various Philanthropists have interested themselves in ameliorating the condition of their fellow beings in this regard; but, what might answer in other places will not do here. If we contrast the tenement of former years with those of the present day, deficient as they are, we cannot but concede that a great deal has already been accomplished; though an ample field still remains for additional improvement—notably in this district. Of late, capitalists seem to approve the erection of houses with compartments divided in such a manner that a number of them are embraced under one roof, separated in floors, supplied with every convenience that modern ingenuity can suggest. These, called "Flats," are well patronized, but are too costly for the class to which I particularly refer. Yet it is after this fashion that our tenements might be modeled; each family and suite of apartments completely separated and isolated, as it were. It is needless to detail all the advantages likely to accrue from such an arrangement.

The size of sleeping apartments is another item to which I would call attention: and it should be made compulsory that every such apartment should connect directly with the external air. This, I am aware, would involve an alteration in many buildings, still it is necessary, and two or three distinct shafts running from the cellar to roof. (besides hallway,) and having ventilators at top, would improve the quality and quantity of fresh air, and also afford additional light.

I have frequently had occasion to notice, while in course of erection, the frail and insufficient support given to the stairways of tenement houses; and, in new buildings, after occupancy a few weeks, complaints are made—and justly so—that the banisters throughout the house are loose, and rails gone; stairs become worn away and rickety. Iron supports, additional girders, more care and attention to banister fastenings, would be desirable in this connection.

Privies have been greatly improved during the past year, numerous separate street sewer connections made, old vault walls cemented, additional drain pipes put in, and other alterations made. Still, with all this, it seems that, if water-closets were substituted for privy-vaults as now constructed, which could be flushed with water at will, after use, an important object would be attained. Few can appreciate the nuisance, despite every care, to which privy-vaults give rise, particularly after a rain storm, and where used by a number of people Those situated near the river front, where the main sewerage is defective and out of repair, are highly offensive.

The practice of placing privy-vaults and water-closets in the dark corner of a tenement house cellar, should, under no circumstances, be tolerated, as they invariably cause the whole cellar to become filthy, and are themselves a source of constant complaint.

Garbage, Table Refuse, and Slops are to be seen in not a few of the streets and gutters of this district. How to provide for their collection and removal is a subject that demands some consideration. Firstly, no matter how many suitable vessels or receptacles are provided to hold the refuse, there will always be found a large class of people ready to fill the street gutter with this rubbish. Secondly, the ash and garbage gatherer has sadly neglected to perform his duty in some of the streets which I examined during the past twelve months; his visits being "few and far between," and, when made, only a certain quantity is removed. Again, few barrels or boxes can possibly withstand the "bouncing" to which they are subjected by this class of public servants. And, as for a fixed or regular hour to collect the refuse, *that* is out of the question. In short, this branch of public service needs an alteration.

Stables are numerous in this section of the city. They are, with few exceptions, notably improved, and tolerably well kept. But, using the cellar of a tenement house for a horse stable is certainly objectionable, and a few instances of this kind have induced me to call the attention of owners to it, and, I am pleased to acknowledge, with encouraging results. The wretched buildings in which some horses are kept, is attributable to causes over which no influence can be exercised. The (occupants and) lessees being poor men, often depending for a living on the work of their horses conjointly with their own, seek the cheapest accommodations, and are mostly confined to the very western limits of this district. They exhibit, however, a very commendable desire to keep their places clean.

Manure Dumps.—Between 37th and 38th Streets, facing the North River, is a large tract of reclaimed or made land, covered principally with horse manure. Not less than sixty-five thousand loads, it is estimated, are there deposited. All day, and often at night, carts well laden with this excrement and stable bedding are dumped, and serve to continue the enormous pile of manure; and its gathering, removal, and disposal, occupy the attention of no less than twenty individuals or firms, who employ a number of men in their service. In fact it is quite an important commercial enterprise, and the value of the article being enhanced by turning it over as occasion may call for, this precaution is adopted, which gives rise to a peculiarly disagreeable sickening odor. In mild weather, when the river is navigable, scows and boats are employed to take it away; but, when ice blocks up this channel or outlet, it is urged that there is no alternative but to let it remain. Recently, much public attention has been directed to this matter; and, in the consideration of some, an important item overlooked. If the manure of stables was allowed to accumulate in thickly populated portions of our city, it would breed an intolerable nuisance. Its prompt removal is a matter of necessity; there must be some place for it. Until recently, this dumping ground was distant from dwellings. The steady march of improvement has lately developed this particular part of the city, and it is now important that some more suitable location should be selected. As to what measures are called for, looking to the removal of manure without the city limits, during the winter, the completion of bridges spanning North and East Rivers will afford, perhaps, the most available solution, enabling us more *easily* to get rid of this non-diminishing article at all seasons of the year. Perhaps, a not unfeasable plan to convey manure away would be on steam ferry boats, which could be specially provided for the purpose.

It is doubtless unfavorable to the hygiene of the neighborhood to aid or invite the formation of a manure depot in the location now occupied.

Fat and Offal Rendering Establishments, &c., at times, fill certain parts of this district with a very offensive odor. Despite the popular indignation against them, and the persistent efforts of your Department to abate them, these establishments continue to ply their vocation to the extreme offence of the residents of this part of the city. Some time since, the New York Rendering Company reconstructed a vessel at a large outlay, and it was hoped that certain new features proposed and introduced would afford some improvement or mitigation; but, I regret to say, that the expectations formed have not been realized, and though they are not the only ones who create offensive odors in rendering, they furnish a share. One thing is quite evident, the melting of offal, &c., should not be tolerated within city limits. This particular section of the city is too thickly populated to allow of the rendering of offensive matter within its precincts.

There are also other establishments which render simply fresh lard or fat, and against them no objection can be raised; they keep their places clean, have complied with the suggestions of the Health Department, and are quite inoffensive. They are furnished with permits.

A practice is prevalent among some butchers, who lease a store under a tenement house, and render lard and fat in the cellar, day and night; running their pipes into the main chimney of the building, creating a nuisance much complained of by those living overhead. They likewise keep their premises in a very filthy condition. Orders have been issued compelling them to cease the nuisance they occasioned.

Slaughter Houses are but few in this district, and, with one exception, model establishments of their kind; and in a very satisfactory sanitary condition, so much so as to merit more than passing notice.

General Nuisances.—"Gut Cleaning," that formerly gave rise to considerable annoyance, has happily disappeared.

The practice of certain packing houses, who place dirty cases and barrels in the gutter and road; crowd the sidewalk with dead cattle, hogs, &c.; fat and grease; have horses and carts backed up to the door, and standing for hours together, should cease. Their sidewalks are invariably in a filthy condition; the street gutters in front of their premises are obstructed, and they are in many other ways objectionable.

Street Cleaning.—But little has been done during the past year tending to improvement in this direction; and, except occasional sweeping, the streets of this district have, as a rule, been in an extremely dirty state—more particularly some of those west of Ninth Avenue. There are many streets which need repairing, and it is to be hoped the Department to which this work belongs, will see it done. The ruts occasioned by worn-out and displaced cobble stones, forming excavations which often contain highly offensive collections of mud and filth, render it an endless task to keep the streets properly cleaned.

The River Front is undergoing many changes, and the recent erection of new buildings is rapidly altering the appearance and condition of this section. Prominent among these new erections is the "Manhattan Market," at the foot of West 34th Street, an enterprise which, if it is a success, (which there is every chance of it being), will no doubt cause an increase of population drawn thither by the trade and business which will necessarily be created. Whatever objection may be raised, no one will deny the fact that our great city needs radical changes in its market buildings. More favorable locations, to furnish greater facilities to venders and customers; increased space, and last, though not least, suitable provision for drainage. I have little interest as a sanitary officer in the architectural features or financial schemes which may be connected with this undertaking, but cannot fail to heartily commend the provision made for the keeping of this establishment in a cleanly condition. The building itself is an ornament to the city, and will no doubt be the means of relieving an overcrowded traffic down town, at the same time supplying a want long felt of a suitable market place.

The Hudson River and Elevated Railroad Companies.—The former Corporation continue to employ the Depot in 30th Street, and trains leave there, at certain hours. The Belt line of horse cars, going up and down Tenth Avenue, cross the tracks of the depot very often, as the trains are about making their entrance or exit, and it is not due to the care of switchmen or employés of either horse or steam cars, that some lamentable accident or loss of life does not occur. I respectfully urge that gates or chains be stretched across the Avenue at this point, and kept up till all possible danger of accident is over.

The speed of trains on the Eleventh Avenue should also be lessened, and the increased travel on this thoroughfare renders it very desirable to sink the track.

The Elevated Railroad Company, having their terminus at Ninth Avenue and 29th Street, should pay attention to providing additional support for the uprights on which their tracks are laid; many of them shake when trains are passing. It is presumed they are securely fastened to a foundation; but this does not divest many people of the impression that some of them may be insecure—a remedy is suggested by this statement.

Public Baths.—I have, hitherto, called attention to the pleasure derived from this improvement by a large class; and, it is to be hoped, that the success of the few free baths recently established, will be the means of inducing the proper authorities to furnish many more during the coming season. The facilities afforded for their location and erection; the great want they supply to many who are unable to enjoy such a needful luxury, unless they are free; and the opportunity they afford for supplying a great sanitary want, commend them to special attention.

Private Houses are numerous in this district, and some few features of their general "hygienic condition" are worthy of notice. Most, if not all of them, are occupied by what are termed intelligent people, and "the better class." A visit to the cellars of some of these premises revealed a state of affairs hardly to be expected in houses where it is to be presumed that people look after their own homes. Accumulations of table refuse, in various stages of decomposition; barrels of rotten vegetables, preserved for winter use; dried salt fish; and sundry meats, well gnawed by rats—(who in turn had been poisoned, and their remains left on the ground as a sort of warning)—quantities of old straw; heaps of ashes and cinders; some filth and a lot of rubbish; together with a raging furnace fire, which gave forth a peculiar heat, coupled with a sickening odor that was markedly perceptible to a person coming out of the fresh air. With some slight difference of detail, this was the condition of a great many. I questioned the domestics, who informed me "that it was so when they came there," and I have no doubt it will be the same when *they* leave. It struck me that, if the lower parts of houses were in this state, the top floors or nurseries might be the better for a visit from a Health Inspector; and, accordingly, I ventured in some of the places where young infants and children are kept. This was what I saw; imagine a close room, the pure fresh air completely shut out, for fear it might give somebody a cold; the apartment heated to an overbearing temperature, with no water or other means to absorb the gas from a lighted stove; a crib or bedstead covered with bed-clothes saturated with urine, giving forth an ammoniacal odor; utensils in a washstand cupboard or under the bedstead, containing human excrement, left there for an indefinite time—I say nothing of the offensive floor carpet—and this is a place to breed and rear young infants in! Habit and use *may* be "second nature," but the exclusion of pure oxygen, to say nothing of diet and want of proper care; the dirty and idle *practices of servants;* the filthy apartments and offensive odors, I found in some of these outwardly fine houses, bore a strong relationship to our worst tenement houses. I may be accused of having overdrawn the picture, but I stand ready at any time to verify these facts.

Plumbing Work.--The recent prominence given to this important subject, is something which indeed deserves consideration. It is not unnatural that persons engaged in the erection of houses and dwellings, either for investment or speculation, should try and save all they can in outlay; and with the many ingenious Plumbing contrivances by which water is now introduced into every nook and corner, as it were, we are, I regret to say, in some instances, providing constant and endless nuisances in the very places that should be most free from them. To be plain, *Cheap plumbing* is at the bottom of all this trouble. I have lately had an opportunity to judge of this through my district.

Contagious Diseases.—Small-Pox.—Not a small share of the work which fell to my lot during the past year, was the care of those who fell victims to this disorder; and hardly a block embraced within my jurisdiction but has been visited more or less frequently. The fear and dread of the many, the appeals of those whose friends it was essential to move away for the public protection, the necessity, at all times, of being on the alert to enforce rigid isolation where that was adopted, the peculiar position in which a Health Officer is placed while performing his duty to the community, and at the same time with all humane feelings aroused by piteous supplications for favors which it is inconsistent with his duty to heed, all formed an eventful and never-to-be-forgotten epoch in the history of my experience as Inspector.

If we trace the course and spread of the present epidemic in Europe, and watch its passage through the United States, it will be evident that by comparison, we have enjoyed an immunity strongly in contrast with other large cities abroad, and this side of the Atlantic. To whatever causes this may be assigned, one conclusive fact is patent : the sanitary measures adopted have in no small degree tended to this favorable result. But, there are instances where no amount of care or precaution can stay the advance of a disease so contagious in its character, and in a large city like this, (to say nothing of a district where only the most urgent dread of being moved to hospital, or contemplation of fatal results arouse people to a sense of their own safety and duty,) it is not strange we should witness, despite every effort, here and there, the occasional presence of small-pox. These first few isolated cases become the radiating points from whence the germs are disseminated by various means, among which may be enumerated : the medium afforded by cotton and woolen fabrics ; the secretions of those affected : the contact with infected clothing in public conveyances and vehicles, and, in my humble opinion, the return of patients from hospital to their old abodes before they are well; the failure and neglect of many to employ medical attendance for fear of exposure, and being reported. These and other causes have doubtless operated largely to swell the statistics of this malady.

The isolation of a patient may be a boon to those who covet the favor ; and, perhaps, might be tolerated in some instances without detriment. But, if past experience is to furnish a criterion for future guidance, isolation of cases in the crowded portion of a large city, within the walls of a tenement or other house, should never be permitted, it being almost impossible to enforce a perfectly rigid quarantine.

The removal of cases to a suitable hospital immediately on discovery should be insisted on at an early stage of the disease, as affording a better chance for recovery to the patient and greater protection to the public.

During the past twelve months it became necessary to vacate two houses in this district, both in the same street, fortunately with the best results. Whatever objections may be urged against this procedure, it served in each instance to "stamp out" the disease. It is perhaps, not out of place here to deprecate the practice of certain midwives, who, with an effrontery only equaled by their ignorance, venture to treat patients with the small-pox, extorting large fees, and enjoining the utmost secrecy. One or two fatal results has terminated the confidence this class of practitioners sought to inspire, and will, I trust, prove a lasting lesson.

To show how communicable the virus of this loathsome disease is, it may not be amiss to briefly narrate the history of the infection which visited the tenement No. 423 West 36th Street. Mrs. C., a widow woman, occupied the basement with her five children, and took in washing for a living; and, doubtless, by this means, introduced the disease into the premises. In rapid succession, three of her children were taken with varioloid and removed to hospital. Having been vaccinated, they passed through various stages of the disease, which displayed itself in rather a mild form, making a good recovery. Three days after the last was taken out of the house, Mary—aged 3 years, on the second floor, exhibited the same disease ; and it was not till the various apartments had been vacated and the removal of no less than nine cases, besides a most thorough cleansing, whitewashing and disinfection of the whole premises, that the house was rendered free from sickness. Unfortunately Mrs. C. washed some shirts for a young lad in Tenth Avenue, and he too fell sick and was removed to Hospital, but not before two more in the same house succumbed to the disorder. This may perhaps furnish an apt illustration of why we find it so difficult to eradicate small-pox.

Vaccination.—With the persistent efforts of the corps engaged in this duty, it might be surmised, (to say nothing of other opportunities, and the tantamount importance of all being protected by so simple a precaution,) that nearly everybody would have availed themselves of its benefits. I regret to state, however, that I find many infants and adults who need vaccination and revaccination.

Scarlet Fever and Measles have been very prevalent this season, but have otherwise not displayed any features worthy of special comment.

Cerebro-Spinal Meningitis, or Spotted Fever.—This disease made its appearance in my district during the month of February last. The greater proportion of cases were children, ranging in age from thirteen months to seven years, (that is excluding the cases of adults,) and, with few exceptions, the attack came on quite suddenly—generally after the evening meal, accompanied with vomiting, pain in the head, (particularly the occipital region,) and this, being of variable duration, was but the precursor to convulsions or convulsive spasms, with *opis thotonos* and throwing of the head back, rigidity of the muscles, &c. In some instances petechial spots were visible, of a dark purple hue, now on the forehead, then on the eyelids, in flexures of the thigh, over the abdomen, chest, &c., or else had ("*herpes labiatus*,") herpes on the lips, &c.

The duration of complaint or attack, &c., in some of the cases, did not last more than from eight to ten hours; in the others it varied—from one to twenty-two days. Constipation was a prominent feature. Alternate fever and chills was sometimes present, with cough, tenderness over the abdomen and spine, extreme sensitiveness to touch, a *peculiar whine* or *cry*, in some instances. Temperature averaged from 100 to 106, falling as the patient mended. Pulse rapid and variable; respiration hurried. The pupils were so affected by various narcotics, at the time I saw them, that it is impossible to state how they were acted on by the disease, if at all, which is more than likely.

The Brown family, of Eleventh Avenue, whose bereavement, in the illness of six children and loss of four, aroused so much sympathy, were among the first to exhibit unmistakable evidences of this disease.

One thing was quite noticeable—the streets on which many of the houses are located, where this disease has appeared, are in a most filthy condition. The mud, garbage and decomposing animal and vegetable matter, to say nothing of the slops and filth that are incessantly accumulating, is unquestionably a factor of diseased germs.

Sick Rooms.—It may not be amiss to call attention to such apartments as I have visited in private houses, where contagious diseases (particularly small-pox) have been isolated. Window curtains of cotton and woolen material, carpets on the floors, upholstered furniture, pictures with cords and tassels hanging on the walls, &c., seem to afford a medium for the preservation and dissemination of disease. Clean, dry floors, plain walls, clear window panes and shutters, or wooden blinds to exclude the sun-light, with a few stools or hard-seated chairs, and a table or so, together with the bedstead on which the patient lies, afford every convenience, are easily kept clean, and will stand a good washing when necessary.

SUMMARY.

The following table exhibits the summary of work performed by me during the period to which this report refers:

INSPECTIONS AND REINSPECTIONS.

Tenement houses	2628	Other nuisances	47
Private dwellings	87	Manure shaft	1
Other dwellings	93	Manure dumps	127
Cellars and basements	15	Slaughter-houses	147
Public buildings	34	Sidewalks	113
Stores and warehouses	276	Alley-ways	8
Factories and workshops	82	Dirty yards	5
Fat-rendering establishments	85	Cars and stages	150
Markets, &c.	2	Boats	4
Stables	360	Smoke nuisances	7
Other buildings	62	Streets	66
Sunken and vacant lots	81	Total	4480

COMPLAINTS FORWARDED.

Tenement houses	226	Railroad cars and stages	150
Private dwellings	44	Vacant lots	13
Other dwellings	31	Streets	5
Public buildings	2	Manure dumps	8
Factories and workshops	4	Sidewalk pavements	30
Privies	7	Yards	4
Stables	131	Other nuisances	12
Fruit stands	1		
Fat-rendering establishments	9	Total	709
Slaughter-houses	32		

VACCINATIONS PERFORMED.

Primary	33
Secondary	464
Total	497

CONTAGIOUS DISEASES VISITED.

Varioloid	235
Cerebro-spinal meningitis	53
Other diseases	43
Total	331

The erection of numerous houses, some of approved appearance, is adding greatly to the improvement of the district.

The zeal, care, and ability displayed by the disinfecting and ambulance corps merit every commendation. They have, under the most adverse and trying circumstances, discharged their onerous duties in an exemplary manner.

To Captain Caffray of the Twentieth Precinct, (a highly efficient officer,) and the members of his command, I beg to express my acknowledgements for the services they have rendered me on certain occasions, while carrying out the orders of the Health Department.

In conclusion, I have the honor to remain,

Very respectfully, Sir,

SIMEON NEWTON LEO, *Assistant Health Inspector.*

NEW YORK, *April 1st*, 1872.

SIXTH SANITARY INSPECTION DISTRICT.

INSPECTOR, E. H. JANES, M. D.

DISTRICT—*Bounded by 40th street, 59th street, Sixth avenue and Hudson River.*

MORREAU MORRIS, M. D., *City Sanitary Inspector.*

SIR : I have the honor to present the following report on the Sanitary condition of the District under my charge, with the amount and nature of the inspectorial labors and other duties performed by me during the past twelve months :

My district presents a variety of features, including a portion of the wealth and fashion of the city, a large business population, several manufacturing establishments, places devoted to offensive occupations, and large sections where want and squalor prevail. The original topography, natural drainage, sewerage and other matters of a general character, have already been described; and, it now only remains for me to briefly review the recent improvements, their sanitary effects, and the future wants of the district.

Streets.—Although, at the time of this writing, the streets generally are in a wretched condition, from want of cleanliness, removal of garbage, etc., there has been some improvement made during the past year in their general condition. A few have been paved with Belgian pavement, and thus relieved of vast accumulations of garbage and filth, and put in a condition in which the maintainance of cleanliness will be a comparatively easy matter. There are still many streets in the district that require the same treatment at the earliest possible moment; among which may be mentioned 48th street, between 9th and 10th avenues, which is extremely offensive with the accumulated filth of years deposited from time to time, until it now reaches the height of about three feet above tho curbstone. This gradually accumulating mass of garbage and filth remains year after year exposed to sun and rain, so mingled with the street dirt and manure, by being ground and pulverized by the wheels of passing vehicles, as to transform the entire surface of the street into one elongated mass of decomposing filth. If this street has ever been paved, the pavement has been so long hidden from view, that it is now classed among the unpaved streets, and is therefore not included in the street cleaning contract.

West 54th street, west of Ninth avenue, is in an equally bad condition. Since the completion of the Sewer in this street, about a year ago, the street has not been cleaned. Large quantities of dirt and piles of loose paving stones were left by the contractor, and are daily increasing in size by the fresh deposits of ashes and garbage, which find their lodgment there. Some of these piles of dirt, ashes and garbage, extend to the height of three or four feet above the proper level of the street surface; and, with the loose and uneven pavement, render the street almost impassable. West 53d street, west of Eighth avenue, is nearly as bad. The sunken places in the pavement where water lodges, and becomes stagnant, the accumulations of ashes, garbage and other filth, which are seen all along the course of the street, the uneven and obstructed gutters, and the general uneven and faulty condition of the pavement, combine to render the street unfit for business or travel, and highly detrimental to the public health. It is important that these streets be thoroughly cleaned, and paved with a substantial and even pavement, for it is in their vicinity that small-pox and scarlatina have raged during the past year, and it is there that the next epidemic that visits us, be it cholera or whatever it may be, will select a goodly number of its victims.

Street Pavements.—One great cause of the bad condition of our streets is the loose manner in which the pavements are laid; for no pavement will be sufficiently substantial that has not for its support a solid, unyielding foundation, to secure which we should not only remove the loose surface soil down to the "hard pan," but having found a hard bottom, we should, if we would secure a solid pavement, first prepare a thick "macadamized" foundation, or a foundation of concrete from twelve to eighteen inches in thickness, upon which the paving stones may be imbedded in coarse mortar. This would entirely prevent the percolation of water between the joints of the pavement, which, if allowed to find its way underneath, and there subjected to the action of frost, causes the upheaval of portions of the paving stones, and the integrity of the pavement is at once destroyed. In this manner our street pavements are often disturbed, and then commences a course of repairing to which there is no end. A perfectly solid, impermeable pavement cannot be secured by the course which we adopt, of bedding the stones in sand, and then sprinkling over them a coating of sand, for the best Belgian pavement laid in this manner, soon begins to show defects in upheavals here and depressions there, (as may be seen in the surface of the best paved streets in our city) seriously interfering with cleanliness and surface drainage.

The first result of an insecure foundation may be seen in the numerous depressions in the pavement along the course of the street; these depressions forming so many receptacles for surface water and street filth; and as the water slowly evaporates from these depressions, and the street dirt which has been washed into them by the rain, (and which is composed in part of organic matter) is by degrees exposed to the influence of the sun's rays, decomposition soon commences, and with it the evolution of noxious gases; each one of these depressions becoming a laboratory for manufacturing the seeds of disease.

Street Gutters are even worse in this respect than the pavements. From the loose manner in which they are laid, the gutter stones are constantly getting out ot order, and presenting obstructions to the flow of water by irregularities of grade, caused by depressions and upheavals which are constantly taking place. It needs no argument to prove the necessity of having street gutters well constructed and properly cared for, when it is remembered that they receive not only the surface water from the street, but often waste water and kitchen slops; and, in many instances, the drainage from horse and cow stables, ashes, garbage and other kitchen refuse, together with every kind of filthy water. Yet it is seldom that we see a street gutter either properly constructed or in perfect repair. In front of tenement houses the street gutter is almost always out of repair, and exceedingly filthy; and, when we add the reeking stench from refuse vegetables, decayed fruit, and the many other putrifying organic substances which are deposited there, we cannot wonder at the fact that along these filthy gutters, cholera infantum, diarrhoea, and dysentery reap their summer harvest. In such neighborhoods, crowded with all classes of people, there are always to be found some who are sufficiently vicious to frustrate all attempts which the better disposed may make towards cleanliness, and hence no sooner are the street and gutter cleaned, than they receive fresh deposits of refuse matter to remain in the gutter during the next twenty-four or forty-eight hours, offending the senses and poisoning the atmosphere.

Garbage and Ashes.—The present faulty system of removing garbage and other refuse, is illustrated in most of the badly paved streets where the ash carts are seen only at long intervals. If receptacles are provided and allowed to stand on the sidewalk, they become filled to overflowing, or, if portable, they are frequently upset, their contents emptied in the street, and the vessels stolen. The people, therefore, are reduced to the necessity of allowing these vessels to remain during the day on the side-walk, at the risk of being stolen, or of removing them to some place of safety within the house, cellar, or yard, at the risk of being left when the cart passes, for no notice whatever is given of its approach, and unless a constant watch be maintained it passes without their knowledge, and the garbage is either deposited in the street, or retained within the premises until the next opportunity presents for its removal. The only way to insure the regular and entire removal of garbage, is, to have a bell-man sufficiently in advance of the cart to give the occupants of the largest tenement ample time to bring their refuse to the street. This I believe is in accordance with the contract; but, in this district, the clause is a dead letter. *The bell should not only be rung in the street, but in the hall of each tenement house*, that all might hear and have no excuse for not obeying its summons. Persons who have provided metallic receptacles complain very much at the rough manner in which these vessels are used by the ash men, who knock them against the wheels of the cart in emptying, and afterwards throw them down on the sidewalk with such force as to batter them out of shape before they have done a week's duty. A proper system of removing this refuse once inaugurated and properly executed, would relieve us of all this annoyance, and do much towards securing for us clean streets.

Stables—I think there is a greater number of large stables in this, than in any other district. Five of the city railroads have their stables here, besides which there is the usual proportion of livery, boarding, and private stables, the general condition of which is good. Most of them are connected with the sewer of the street adjoining, and have receptacles of some kind for manure. Among the improvements in this class of buildings effected during the past year, may be mentioned the new stable of the Tenth avenue railroad company, situated on the west side of Tenth avenue, between 53d and 54th streets. This building is three stories in height, the first story occupied as a car house, the second story is the stable, and the third is for storing and preparing feed. It is the intention of this company to have here a mill to enable them to grind their own feed, both as a matter of economy, and a guarantee that the feed shall contain no adulteration. The stable floor is so graded as to conduct all the urine and wash water to the various sewer pipes with which the building is well supplied. It is divided into stalls which are separated by iron framework, which, with the large windows on all sides of the building, afford to the animals thorough ventilation. Improvement has already been commenced on the property recently occupied by the dilapidated old stables of this company, the result of which will be a relief to the district of a great nuisance.

Cow Stables in this district are generally kept in as good a condition as their nature will admit. Where there is a sewer in the street, orders to connect cow stables therewith are rapidly enforced, and no permit is recommended until all orders in that respect are complied with.

City Railroads.—A few weeks ago, a special inspection of the various cars running on the city railroads was made with a view of ascertaining their sanitary condition ; and, perhaps, it is not out of place to briefly repeat here the substance of my special report, made on that occasion. The points of inquiry were, (1) the degree of ventilation, (2) of cleanliness, and (3) of safety to passengers. Of the five lines of cars that have their starting points in this district, those that pass through the more central portions of the city are in a much better condition than those that traverse the avenues near the river. This, I think, is due in a great measure to the difference in the people who patronize these cars ; those traveling the more central avenues—say the Fourth, Broadway, Sixth and Eighth, being composed largely of business people and tradesmen, whose occupations are cleanly, and who do not either by their clothing or otherwise, contribute to soiling any portion of the cars ; whereas persons riding in the cars that traverse the avenues on either side of the city near the rivers, are often fresh from their work, the occupations of many of them being of an offensive nature, and enter the cars reeking with perspiration and begrimed with smoke, grease, or dirt, portions of which are left in contact with the cushions or backs of the seats. These cars are generally, at night, crowded to their utmost capacity with people in this condition returning from their work, from whose sweltering bodies, and from whose lungs are constantly escaping animal exhalations and carbonic acid, filling the atmosphere of the car to suffocation. The impure gas escapes by ventilation, but the organic exhalations and the germs of disease, if any passengers are so affected, adhere to the cushions or still float about in the atmosphere of the car, not possessing the property of gaseous diffusibility, and consequently not so rapidly dissipated. The presence of organic matter in the atmosphere of some of these cars, may be detected at once by the peculiar odor not unlike that perceived in an unventilated bed-room on the morning after it has been occupied during the night, or in the atmosphere of a crowded tenement house at almost any hour during the day or night. As these organic impurities are not removed by the property of diffusibility alone, but require some force to expel them, as a current of air, or some disinfectant to destroy their vitality, it can hardly be doubted that the car cushions often serve as fomites for the conveyance of contagious or infectious disease, and I most assuredly deem it advisable that all upholstering of the seats of cars be dispensed with, and that wood, cane, or carpet-lined seats be substituted.

The ventilation of the cars is not sufficient, as all means thus far provided are at the caprice of the passengers, and it is often that they cannot agree among themselves as to the amount required ; a plethoric, full-blooded asthmatic man demanding that every window be opened, while the delicate, nervous female at his side cannot endure the slightest current of air. A system of ventilation could be devised that would expel the vitiated air at the top of the car, and at the same time admit fresh air without subjecting any of the passengers to the inconveniences of a draft. Another noticeable feature was that none of the cars were provided with means to prevent the passengers jumping on and off the front platform, by means of which accidents are frequently occurring. The rules of all the companies forbid passengers getting on or off the cars while in motion, or standing on the front or rear platform when there is room in the car; and yet the driver hardly ever stops his team for a man to get on or off, and there are always persons standing on the rear platform holding on to the small iron hand railing, the purpose of which is to support persons while alighting from the car, but which are in reality monopolized by passengers in violation of the rules which are posted in plain sight.

Manure Dumping Grounds.—There are, at present, none of these in the district. The lot at the foot of West 50th street, formerly occupied as a dumping ground, was, by order of the Board, cleaned during the fall and early part of the winter, and its use for that purpose abandoned. Manure removed by way of this dock is dumped immediately on the boat, though in the absence of the boat it is sometimes dumped on the dock, to remain there until the arrival of a boat to remove it. Most of the manure removed from the stables of this district is taken to the east side of the city, and there dumped to await the time for removal.

Slaughter Houses.—There are in the district thirty-four slaughter houses; five of them are situated east of Tenth avenue, and therefore in violation of the Sanitary Code. The others are in compliance with the code, so far as location is concerned, and are generally kept in a fair condition; still it seems proper here to repeat what has already been said on previous occasions, that one of our great sanitary wants is the location of all slaughtering establishments at the water's edge—or, what would be better, the erection of *abattoirs* over the water, so that all fluids may pass directly into the water without first being discharged into the street sewer. The establishment recently erected by Metcalf & Gibbs, at the foot of West 41st street, well illustrates the advantages of this plan of building, and the ease with which sanitary regulations may be effected. All fluids from this establishment flow directly into the water, while the outlets are so protected, and the windows are so guarded with wire screens, that the escape of any offal, or other improper substance into the water, is impossible. Since the adoption of a system of weekly inspections of slaughter houses, these establishments have been kept in a pretty good condition in regard to cleanliness, and other sanitary requirements; any defect being discovered, the attention of the proprietor is called to it, who at once has the evil corrected without any official order from the Board. There are, however, certain evils connected with the business of slaughtering that will not be entirely remedied, so long as the business is conducted in occupied portions of the city. These have been repeatedly laid before the Board, and it is unnecessary to revert to them here; suffice it to say that the sooner this business, with fat rendering, tripe cleaning, and every kindred occupation, is confined to properly constructed abattoirs on each side of the city, the sooner will portions of our citizens be relieved of an offensive nuisance.

Smoke.—The smoke nuisance still exists in the district to a considerable extent. The ordinance requiring that every furnace employed in the working of engines by steam be so constructed as to consume or burn the smoke arising therefrom, has been complied with in a great many instances, and indeed, I might say in all of the larger establishments, where the nuisance was the most extensive and annoying. But the appliances for consuming the smoke are generally so adjusted as to be in operation or not at the will of the stoker, just as a ventilating aperture may remain open, or be from time to time closed, to suit the wishes of the occupant of the room to be ventilated. It has often happened that upon seeing large volumes of smoke issuing from a chimney where it is known that one of these appliances has been provided, and upon immediately visiting the premises, the Inspector finds the smoke consumer is not in operation, and yet no one knows who is responsible for the neglect. And, again, it has been from time to time demonstrated in this district, that no smoke consumer hitherto applied, is sufficient to wholly abate the nuisance, unless the stoker observe proper care and discretion in the management of his fire, particularly in adding fresh fuel. If the fuel be added in too large quantities, or the fire be allowed to get too low before the fresh fuel is added, there will always be a portion of unconsumed carbon escaping before the fresh fuel is sufficiently ignited to destroy it; an accident avoided only by holding the stoker, as well as the proprietor, to a strict accountability.

The escape of smoke also depends somewhat upon the nature of the fuel used. Bituminous coal, large quantities of which were consumed during the early part of the year, in consequence of the high price of anthracite, allows of the escape of large volumes of smoke, particularly if there be much dust, as there usually is in the soft varieties of coal. It was from this cause that during the spring and summer months the smoke nuisance was somewhat annoying, even from the chimneys where smoke consumers had been supplied, owing partly to the nature of the fuel, and partly to inattention on the part of the stokers. Where anthracite coal is used, the only escape of smoke takes place during the burning of the wood used in igniting the coal, which, for a short time, whenever a fresh fire is kindled, is very offensive to persons residing in the immediate vicinity of the furnace, and for which there seems to be no remedy.

The burning of chips and shavings, as in planing mills, etc., is a source of much of the smoke of which complaint is made, and as many of these furnaces are so constructed that a consumer cannot be attached, orders have been issued to extend the height of the chimney above that of the adjoining buildings on either side, which is done either by building it up with brick work, or adjusting to the top of the chimney a pipe of galvanized iron, stayed by props or guys. The effect of this is to relieve somewhat the people of the immediate neighborhood of the nuisance; but the smoke is carried to more distant localities, and eventually falls to the ground and contaminates the atmosphere in proportion to the extent of its diffusion. A large number of furnaces are of this kind, and the smoke nuisance cannot be satisfactorily abated until such furnaces are reconstructed.

Dwellings.—One hundred and twenty-nine tenement houses have been erected in the district, and I think nearly the same number of private dwellings. There is also a large number of each class of dwelling houses in the course of erection. The new tenement houses are most of them of the better class, and in compliance with the requirements of the tenement house law, with the exception of the clause in Section 15, which requires that the halls on each floor shall open directly to the external air," which is in a majority of instances violated. There are also many houses being built to be occupied in "flats," a class of dwellings now becoming quite popular. As a good specimen of this style of building, attention is called to the block of houses now being completed on Ninth avenue, between 44th and 45th streets, on ground occupied last year by some dilapidated wooden structures, with stables in the rear, all of which were very filthy, and the cause of frequent complaint. It is a source of satisfaction to the Inspector to see improvements of this kind in progress in his district.

Small-Pox and Vaccination.— Notwithstanding the well-known protection from small-pox afforded by vaccination, and the extraordinary efforts of the Health Department to afford this protection to every willing recipient, free of expense, the disease is still prevalent, to some extent, in the district. It has been the practice, during the past year, to remove to the hospital all cases that could not be safely isolated at home; and I do not know that any cases so isolated have been the means of propagating the disease. It is my opinion, however, that patients, removed to the small-pox hospital, are too often discharged before the process of desquamation is fairly completed; and are allowed to mingle again in society with some *débris* of the disease still adherent to their persons or clothing, capable of communicating the disease to others. There is need, I think, of more care in the discharge of patients from the small-pox hospital; or, I would say, rather, that there is need of a small-pox hospital built and fitted up on a scale that will meet the requirements of all classes of patients, where they will be willing to go and stay until such a time as they can be discharged with safety to others. As isolation is absolutely necessary in order to arrest the spread of the disease, measures too stringent cannot be adopted to secure the early report of every case, that it may receive attention before it matures into the stage of infection. Such information alone, will enable us to deal successfully with this powerful enemy of our race.

Vaccinations performed by me have been confined to families visited, and private individuals calling at my own office for that purpose. I have, therefore, had nothing to do with schools or other crowded assemblies. So far as I have been able to watch the result of re-vaccinations, it has appeared to me that they have been successful in a far greater proportion than in ordinary seasons, owing, I think, to the fact that the epidemic influence now in our midst renders the system more susceptible both to the variola and the vaccine poison. Notwithstanding this fact, and the painful experience of the year just ended, there still remains a good deal of opposition to vaccination among certain classes. There seems to be a particularly strong prejudice among the German population in favor of delaying vaccination until the month of May—so strong, indeed, that it almost amounts to a superstition, and all the persuasive powers of the Inspector are not sufficient to overcome it. Hence a large amount of material is left for the disease to prey upon, a state of things which I believe will not be remedied by any means short of compulsory vaccination.

Animal Vaccination.—During the early part of the year efforts were made to improve upon the stock of virus then in use by the Board, by the introduction of *animal vaccination*, a brief account of which is proper in the conclusion of this report. The experiments were conducted at the Board's disinfecting depot, upon calves obtained for the purpose, and kept in the stable at the depot that the effects of the operation and progress of the disease might be from day to day noted. The virus employed was furnished by a member of the Sanitary Committee, and obtained by him from the "Practical Institution of Animal Vaccination of the Islands of Cuba and Porto Rico." It was neither in the form of lymph nor desiccated crust, but consisted of "pustules taken from the cow on the sixth day after vaccination, and prepared by an exclusive process of the institution." This is all we knew of the stock or its history, and the following is the result of its trial upon four calves vaccinated by Assistant Inspector Judson and myself.

First Experiment.—On March 27th we vaccinated a young heifer, weighing 158½ pounds, by making five scarifications, and applying to each a portion of the prepared pustule, dissolved according to directions. The first effects on the animal were a slight rise in temperature, and, for a day or two, a diminished appetite. On the 4th of April, eight days after vaccination, two vesicles were formed, from which twenty quills were charged. On the 19th of April the crust was removed, and the calf, which had been well fed during the time, was found to have gained twenty-two pounds.

Second Experiment.—On April 12th we vaccinated a young heifer calf, by making twenty-five scarifications, and applying to each a portion of the dissolved pustule, as in the previous instance. On the 24th, there being no appearance of vesicle, the experiment was repeated with twelve scarifications, using the same virus, and also two points of bovine lymph obtained from Dr. Frank P. Foster, of the New York Dispensary. These two points failed. On May 1st there was one well-formed vesicle, from which fifty points were taken, and another but partially developed, which finally aborted.

Third Experiment.—On May 4th we vaccinated a young heifer, about twelve weeks old. As the animal was wild and exceedingly difficult to manage, only six scarifications were made. On the 12th two vesicles had matured, though only thirty points of lymph could be obtained.

Fourth Experiment.—May 12th, we vaccinated a heifer calf, eight weeks old, making six scarifications, and applying lymph taken on the same day from the calf vaccinated on the 4th of the same month. These all developed early, so that when seen on the seventh day they were too far advanced to yield pure lymph, and were therefore allowed to go on to incrustation. Two perfect crusts were saved, the others having been so disturbed that it was thought best to reject them. The early development of the vesicles in this case was due, I think, to the fact that the lymph used was transferred directly from calf to calf when it was in its highest degree of activity, whereas in the previous cases the dried pustules were used. In no case did the operation produce any very marked constitutional disturbance. In regard to the success attending the use of this lymph, I was able to make limited observations only, as much of it was accidentally mixed with humanized lymph, and lost to sight. One of the vaccinating corps, however, Dr. Goodell, was supplied with a quantity of it, which he used in my district, thus affording me an opportunity to note the result, which compared favorably with that from the use of humanized lymph. Although the experiments in animal vaccination, so far as conducted, cannot be considered a pecuniary success, I think enough was done to show that it might be made eminently so if properly inaugurated and carried out. The virus used did not seem to be of the most active kind, as among the large number of applications so small a proportion of them were successful. The lymph obtained as the result of these vaccinations, and transferred from calf to calf, was more active in its operation, and produced better results; but the weather was becoming warm, the small-pox was diminishing, and there was a less demand for vaccination during the summer months than there had been during the winter and spring. The animals, moreover, were restless and noisy, and the operation sometimes required more assistance in their management than was conveniently at hand. Notwithstanding these obstacles, I believe that a sub-bureau of vaccine connected with the Bureau of Inspection, and permanently organized, with proper facilities for the practice of animal vaccination, would be able to supply itself with a sufficient quantity of bovine lymph to meet its demands; and at a time when animal vaccination is attracting so much attention, both in the professional and the public mind, as at present, it seems to me that such an organization is not only timely, but that it could not be more successful under any management than under that of the Health Department of a great metropolitan city.

SUMMARY.

The following table exhibits a summary of inspections, reinspections and complaints, made during the year:

INSPECTIONS AND REINSPECTIONS.

Tenement houses	2002
Private dwellings	626
Shanties	331
Cellars and basements	132
Boarding houses	44
Restaurants	45
Public buildings	12
Stores and warehouses	19
Factories and workshops	124
Markets and market places	3
Fat-rendering establishments	3
Slaughter-houses	816
Stables	178
Yards and hydrants	44
Privies and water closets	63
Sunken and vacant lots	98
Sidewalks	11
Streets and gutters	77
Piggeries	3
Manure dumps	5
Cattle yards	10
Street cars	150
Sewers	2
Total	4799

COMPLAINTS.

Tenement houses	252	Privies and water closets	29
Private dwellings	49	Sunken and vacant lots	32
Shanties	26	Sidewalks	4
Cellars and basements	10	Streets and gutters	36
Restaurants	1	Piggeries	2
Public buildings	3	Manure dumps	3
Factories and workshops	12	Cattle Yards	4
Fat rendering establishments	1	Sewers	2
Slaughter houses	8	Total	513
Stables	29		
Yards and hydrants	10		

The following is a summary of inspections made with reference to contagious diseases reported :

Small Pox	320
Scarlatina	29
Typhoid Fever	11
Cerebro-Spinal Meningitis	7
Total	367
Vaccinations and Revaccinations	263

All of which is respectfully submitted,

E. H. JANES, M. D., *Health Inspector.*

New York, *April 1st*, 1872.

SEVENTH SANITARY INSPECTION DISTRICT.

ASSISTANT INSPECTOR, ALLAN McLANE HAMILTON, M. D.

District *bounded by Spuyten Duyvil Creek; 59th street and Central Park; Sixth avenue, and the Harlem River; and Hudson River.*

Moreau Morris, M. D., *City Sanitary Inspector.*

Sir : I have the honor to present the following report of my duties as Assistant Health Inspector, from September 14th, 1871, to April 1st, 1872.

Topography, &c.—The extreme length of this District is nearly eight and one half miles, and its greatest breadth about two miles. Its surface is so uneven and hilly that it would be difficult to give an accurate and concise description of every important point. Extending transversely across the island after passing through Central Park, there is a backbone of blue stone and mica schist. Along the western border we see this rocky formation most plainly, particularly at its northern end. On this side of the island we find a series of high cliffs with an average altitude of 96.00 above the tide level. At 124th street there is a deep valley and a consequent reduction of altitude to 27.50. The eastern border is all high, and at 9th avenue and 93d street, we get an elevation of 120 ; from this point we find a decline as far north as the Manhattan Valley. From 130th street there is an ascent till its maximum elevation is reached at 10th avenue and 138th street, where the highest point is 156.83. The land is comparatively low at the southern limit (59th street), where the elevation is but 76. Along the eastern line, that is, Eighth avenue, we find marshy ground, and ponds which have been made by the banking up of new streets. In the Manhattan Valley, that is, in the district between 110th street and 130th street, we find the same evils.

The western part of the island is comparatively free from these collections of water. At the southern limit as far north as 69th street, and from the "Park" to the river, there are many vacant lots containing stagnant water.

Public Institutions.—The District contains several large public institutions, among which are the Bloomingdale Insane Asylum ; Mount St. Vincent Academy ; the Convent of the Sacred Heart, "Leake and Watts Orphan Asylum ;" the Colored Orphan Asylum ; the "Sheltering Arms" and several others, Roman Catholic, and charitable institutions, all in excellent sanitary condition.

Drainage.—The laying out of new streets, and the Boulevard has done much to defeat the proper drainage of the upper part of the Island. The total disregard of the natural water courses, and grades, in the process of filling in, has already shown its ill effects, for in some places there are large bodies of stagnant water without any apparent outlet. Of course, till sewers are constructed, this evil cannot be remedied. Along Eighth avenue the want of sewers is felt the most, and in the meantime malarial diseases must prevail. When we find sewerage, it is almost impossible to compel the owner to make the necessary connections. My predecessor, Dr. O'Leary, speaks very strongly of this, and my experience has been but a repetition of his. I concur with his suggestion that the property should be attached for the improvements.

At a lower part of the District there are whole blocks of shanties with their ground floors under water whenever it rains.

Sewerage.—The sewers furnished are the following : 59th street, (entire) ; 60th street, from 9th to 10th avenues ; 61st street, from 9th to 10th avenues ; 62d, 53d, 64th, 65th, the same ; 66th street, from 10th avenue to North River ; 70th street, the same ; 71st and 72d, from 8th to 10th avenues ; 75th street, from 9th to 10th avenues ; 77th street, from 8th to 9th avenues ; 81st street, from 8th to 9th avenues ; 92d street, from 8th to 9th avenues ; 125th street, from 6th to 8th avenues ; 129th street, from 10th to Manhattan street ; 130th street, from Broadway to North River ; Broadway, from 129th street to 130th street ; 10th avenue, from Manhattan street to Lawrence ; 10th avenue, from 59th street to 81st ; 9th avenue, from 125th to 126th street ; 9th avenue, from 75th to 78th street ; Boulevard, from 62d to 65th street ; 8th avenue, from 59th to 69th street.

These sewers now afford the proper means of drainage to a great many sunken lots on their courses, but many more are needed.

Contagious and other Diseases.—Small-Pox has prevailed to a moderate extent during my short term of service. It has had four principal centres—the worst of which has been a row of tenement houses on the Boulevard, between 77th and 78th streets. In one house alone here, I have seen six cases at different times. The second centre has been in the neighborhood of 94th street, on the eastern side. 110th and 111th streets, near the Boulevard, has been a third District infected, while the fourth has been in the lower part, viz., from 59th to 69th streets, between the Boulevard and North River. But few cases of other contagious diseases have come under my observation.

Intermittent Fever.—The disease, *par excellence*, of the District, is Intermittent Fever. The universal prevalence of malarial disorders is a subject for serious consideration. The Western story told of a Missouri town, when half the population were shaking with ague, and the other half holding them, almost finds its counterpart here. I have seen the wretched inhabitants of the many shanties, that are perched about and above the ponds, along Eighth Avenue, too sick to work, and too poor to buy quinine. I fear that this state of things must exist till sewerage is completed.

Tenement Houses.—There are but few in my District, and most of them are in good condition. Those in Lawrence street are rather dirty ; but at Carmansville they are in excellent condition. The owners seem to realise the good work that the Health Board is trying to accomplish, and in nearly every instance co-operate with them.

Shanties and Stables.—The multitude of German and Irish squatters have invaded the northern end of the island, and many have constructed their uncouth dwellings upon my District. A few old boards, and some rusty nails, and we find a human habitation, whose synonym is "disease." There are many hundreds of these hovels scattered on the rocks; and, at some places, for instance on the blocks between 77th and 81st streets, 8th and 9th Avenues, there are small colonies. The habits of the people are of the most degraded character. The camp followers of the English army called "the Wrens," who live in caves, are not more filthy than the shanty population of New York. Dogs and pigs are the inseparable companions of these settlers, and the latter animals need special sanitary watchfulness. It is not unusual to find these beasts kept in the cellars and outhouses; and in one instance I discovered upwards of seventy-five in a radius of two hundred feet. The danger of entozoic, and sporadic diseases can be dwelt upon, and the necessity for extermination realized when such a state of affairs exists. Nearly every house-owner possesses a horse or cow, and considerable time has been spent by me in endeavoring to compel them to keep these animals in a way that would be consistent with health. Many manure boxes have been ordered, and many dirt yards cleaned.

During the last few months, I have examined and reported upon the Sanitary condition of the Broadway and Seventh Avenue R. R., the terminus of which is in my District.

SUMMARY.

Inspections and complaints made from September 14th, 1871, to March 1st, 1872:

INSPECTIONS.

Tenement houses	782	Breweries	2
Private dwellings	1175	Factories and workshops	16
Shanties	722	Piggeries	38
Vacant and sunken lots	48	Drains	1
Stables	150	Fat-rendering establishments	3
Privies	172	Cars	137
Public institutions	8		
Cellars and basements	16	Total	3170

COMPLAINTS.

Tenement houses	43	Factories and workshops	2
Private dwellings	16	Piggeries	17
Shanties	2	Fat-rendering establishments	3
Vacant and sunken lots	9	Cars	18
Stables	25		
Privies	26	Total	163
Public institutions	2		

CASES OF CONTAGIOUS DISEASES VISITED.

Variola hemorrhagica	1
Variola	61
Varioloid	9
Varicella	1
Measles	3
Scarlatina	3
Typhoid	5
Typhus	1
Parotiditis*	1
Total	85

All of which is respectfully submitted,

ALLAN McLANE HAMILTON, M. D., *Assistant Health Inspector.*

NEW YORK, *March 1st*, 1872.

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*Reported as contagious disease.

EIGHTH SANITARY INSPECTION DISTRICT.

INSPECTOR, HENRY R. STILES, M. D.

DISTRICT *bounded by Catharine street, Broadway, Chatham street, and East River.*

MOREAU MORRIS, M. D., *City Sanitary Inspector.*

SIR:—My sanitary labors during the past year have been confined to the same district which I held at the close of the previous year.

Its peculiarities of *topography, population, character of occupation*, and changes therein; *tenements, sewers, stables* and *pavements*, were sufficiently set forth in my previous annual report. I may add, however, that another year's added experience has fully corroborated the statements and justified the suggestions which I then made on these points.

Street-cleaning has not been as well performed in the Second and Fourth Wards (especially in the latter) as in the year 1870. Indeed, this most important department of the sanitary work presents a formidable and disheartening obstacle to the efforts of the Board of Health; and must continue to do so until the detail of its labor is honestly re-organized on the basis of common sense, and the labor itself performed with fidelity and efficiency.

The *ash and garbage* nuisance is, in fact, part and parcel of the same mismanagement which gives New York its pre-eminently filthy streets. Ordinances of the Board, relative to the providing of separate metal or metal-lined receptacles for ashes and garbage, with a view to their easier collection and better utilization, are, in my judgment, premature and practically inoperative; and all the efforts of the Board's Inspectors to regulate this great nuisance are—and must necessarily continue to be—utterly futile (in the tenement house districts, at least), until the root of the evil is struck by giving the control of street-cleaning to the Health or Police Departments, and by abolishing the present contract system. When *that* point is reached—and not until then—we can harmonize the many minor difficulties and considerations which at present, even with the best intentions on the part of landlords and tenants, present insuperable obstacles to a full and proper compliance with the wishes and orders of the Board.

Cellars and Basements.—Of these there are a large number, in the Fourth Ward especially—many occupied as "lodgings," and some, in fact, are dens of vilest prostitution. They are nearly all kept in a very fair sanitary condition; and, under the vigilant care of the Board in previous years, their structural condition has been brought so far within the requirements of the laws regulating such habitations, that I have not felt called upon to interfere with their occupancy, except in one or two instances. One of these was in a tenement occupied by five families, who were practically debarred from all water-closet accommodations, because the only water-closet in the building was located in the cellar, which was itself occupied by a family and lodgers. The discomfort and nuisance arising from this deprivation was excessive, and the remedy applied, by the Board's authority, was the vacation of the cellar as a dwelling, the repair of the water-closet, and the throwing of the whole open to the use of the families in the house.

My own opinion, however, is decidedly unfavorable to the occupation of cellars and basements as places of human habitation, believing (as expressed in your own report to the Board, for the year 1870, page 60) that it "can only be defended on the barest grounds of *necessity*." In fact, if the provisions of Sections 6 and 7 of the Tenement House Act were brought to bear strictly upon this class of habitation within my district, almost every one of them could be legally closed, and I sincerely wish that they were. I venture to hope that, before another year shall have passed away, the Board will adopt some clearly defined policy in regard to this class of habitations—one which may indicate to its inspectors the course of action to be followed, and which shall bear with impartial weight upon all parts of the city.

Markets.—Although no structural changes or improvements have been made in Fulton, Franklin, Catharine and the fish markets in my district, it is pleasant to remark that, in common with all the city markets, they have been kept, for a few months past, in much cleaner condition than ever before. This increased cleanliness—which also extends to the streets surrounding the markets—is due to the faithful supervision of the new Superintendent of Public Markets, Col. THOMAS F. DEVOE, whose long practical acquaintance with the history and needs of our market system eminently justified his appointment to this important position.

Improvements in Tenement Houses.—The most noticeable tenement-house improvements which have occurred during the past year, in the Fourth Ward, were those effected under certain orders of the Board, requiring premises to be *vacated* as "unfit for human habitation; and, by reason of want of repair, dangerous to life." In each case the order of the Board was based upon my complaint, carefully framed and particularly minute as to detail, which complaint was accompanied with the certificate of the City Sanitary Inspector, and with his recommendation that an order be issued by the Board "vacating the said premises within ten days, and forbidding their use again as human habitation until a written permit is obtained from the Board for such occupancy." Reinspection was made of the premises within ten days after the issuance of such orper, and the premises, if found still occupied, were then summarily entered by the sanitary police, and vacated of all tenants and their chattels. It will be noticed that the order of the Board in these cases was simply for *vacation* of the premises, making no requirements as to repair, or as to detail of measures necessary to remedy the evils complained of. These matters were left open for discussion in the conference which was sure to follow, when the owner or agent of the property in question made his appearance at the office of the City Sanitary Inspector, enquiring "*what* repairs and improvements does the Board require before I can be allowed to re-let my house again for occupancy?" Then, in a conference with the City Sanitary Inspector (acting for the Sanitary Committee) and the District Inspector, the previous sanitary history and present condition of the premises was thoroughly discussed, the necessary alterations and improvements indicated, advice and suggestions offered; and this advisory relation was further maintained, during the subsequent progress of the work of repair, by frequent visits made to the premises by the Inspector, which afforded opportunities of correcting minor errors of detail, etc., and which served undoubtedly to establish between both parties that harmony of feeling and concert of action best calculated to accomplish the desired work of reform. In all these cases the results secured have been exceedingly satisfactory, not only to the officers of the Board, but even to the owners of the property themselves, who, having made these improvements under compulsion, now find their reward in the increased value of their property—the greater ease and comfort with which it is managed, and a better class of tenants. The firm attitude maintained by the Board in thus dealing with these "plague-spots" in the Fourth Ward, has greatly enhanced its influence among the people and the property-owners of the Ward, and to a degree which is very appreciable to an Inspector in his daily rounds.

In view of their importance in the sanitary history of the past year, I have thought best to present the following detailed statements relative to these vacated buildings:

I. *Nos.* 31 *and* 33 *James Street*, a brick tenement building, 40 feet front, 21 feet deep, four stories and basement, (below level of sidewalk), built closely adjoining to other houses on all sides but the front. It is divided into two tenements, each having, on each floor, two suits of rooms, each suit consisting of a living room and a dark bedroom; the suits of rooms on the first floor of each tenement are divided by a hallway a trifle over three feet wide, opening from the street, and ending in a stairway which passes up the rear of building, and is totally unlighted. The size of living rooms on first floor is 14 by 8 feet, of the dark bedroom 7 by 8 feet; on the three upper floors, the living rooms are about 10 feet in width—having no hallway, other than the landings of the stairway at rear. It will be seen, therefore, that, having no yard, no means of through-and-through ventilation, and no light except from the front windows, this building, from the very day of its first occupation, presented the best facilities for its becoming a "first-class nuisance." As such, accordingly, it stood on the books of the Metropolitan Health Commission; it engaged the serious attention of Dr. Elisha Harris, the then City Sanitary Superintendent; it formed the text of numerous complaints, both from the medical and sanitary police; it furnished constant work for the undertaker, the ambulance and the hospitals. Its occupants were of the worst sort. Its sanitary conditions were ever an unsolved problem to me from the time I took charge of the District, in June 1870. I could not succeed in securing even a reasonable mitigation of the evils from which these poor people suffered. At length, on the 10th of May, 1871, I made a complaint against the premises in which the following conditions (substantially the same, in every respect, as had existed for several years previous) were described.

"The privy-vault, situated under the street sidewalk, in front of No. 31, is sewer connected, but constantly full (sometimes to within 8 or 12 inches of the floor); is uncovered on one side, for a distance of 6 or 8 feet; the flooring is rotten, slimy and filthy to the highest degree; the vault is insufficiently lighted; and is difficult of access, being approached from the street by a curving stone stairway, steep, slippery and wet from the neighboring hydrant and from filth. Owing, indeed, to this inconvenient and unsafe approach to the privy, the occupants of the house generally use their slop-pails instead, and then, standing on the top steps, throw their contents into and upon the privy floor! It is impossible, generally, to get to the privy even (much less to enter it) without suffering defilement of clothing. [On my visit of May 9th, I found that the flagging of the sidewalk, over privy-vault, had fallen in upon the vault, leaving the condition of sidewalk highly dangerous to life and limb; while the loose and threatening condition of the rest of the sidewalk forbade any one from entering or using the privy—and the tenants were consequently obliged to frequent a neighbor's.] There has been no time, winter or summer, within the past year, when the odor from this underground privy-vault has not been sufficient to favor the development of disease in the premises, for it penetrates every part of the building, which has no through-and-through ventilation and cannot have any, owing to its construction. Each bedroom (7x8 feet), and each stairway landing has a window frame, but as the rear wall is built directly against the building in rear, with about one inch space intervening, these windows are of no use for light or air, and are not furnished with sash.

"The roof is very leaky—and owing, in part, to the sad condition of the privy-vault, as before described, and, in part, to their laziness, it is the habit of the tenants upon the upper floor to throw much of their chamber slops, out upon the roof. This nuisance leaking down the interspace between the rear wall and building in rear, and increased by rain and melting snow, which takes the same course, causes great dampness and a constant noisome and unwholesome condition of rear walls, down to the basement. The chimnies are broken, and flues obstructed, so as to cause smoking in the upper apartments—eaves and gutters are rusted and useless.

"The hallways are dark, filthy with smoke, grease, etc., and damp. Plaster throughout the house is broken.

"The basement opposite the privy-vault is used as a junk shop, the refuse rags, etc, stored there, being a serious nuisance to tenants. The other basement is used by a family as a living place, but is unfit for such purpose."

On my complaint, and upon the added recommendation of the City Sanitary Inspector, an order of *vacation* was issued by the Board, and effected by the aid of the Sanitary Police, although with some little difficulty, some of the tenants defying the officers, who were finally obliged to put them out by force—two being removed to the station house, and one (in almost a nude state) being sent to the hospital. The owner and the builder who took the contract for repairs were fully advised as to the nature of improvements deemed desirable by the officers of the Board, and operations commenced. As the work progressed, and the unutterable filthiness and dilapidated condition of the premises became gradually revealed to the astonished builder and his workmen, (several of whom were made ill from the effects of the fetid odors disengaged,) it became evident that the repairs needed would far exceed the demands of the contract—in fact, would amount, virtually, to a rebuilding of the whole premises. The builder, therefore, sought and obtained a release from his contract, and resumed the work under a new arrangement, which involved no absolute loss to himself, although it did not add much to his profits. Over six months elapsed before the building was again ready for occupancy, under the permit of the Board of Health. During that time, it had been thoroughly cleaned and disinfected; the plaster of the old walls and ceilings torn down, and the walls new plastered and papered; the flooring of every floor, and much of the woodwork of the house replaced with new material; the chimnies rebuilt from the very bottom; the roof, eaves, gutters etc., made over new; ventilating windows made in every dark bedroom opening upon the hallway, and ventilating shafts, of wood, 12 inches square, running from the basement to a height of one foot above roof, were introduced in each house, opening into each bedroom by two registers, one at the top and one near the floor of each room; the front area and steps repaired, and properly drained; the hydrant removed from the foot of the area steps (where it had seriously impeded access to the privy) and located in a more convenient place between the two houses; and the privy-vault newly floored, arched overhead in masonry, in proper and safe manner, and a *school-sink* introduced, well finished and sewer connected; the whole house, inside and out, well painted. The cost of these improvements was very nearly $4,000. The rents before and after these improvements are shown herewith:

	OLD RENT.	NEW RENT.
5th floor	$5 00	$6 00
4th floor	5 00	7 00
3d floor	6 00	8 00
2d floor	8 00	9 00
1st floor—living room and store	10 00	10 00
Basement	5 00	6 00

II. *Nos.* 36 *and* 88 *Cherry street*, known as "Gotham Court."—The sanitary history and conditions of this gigantic tenement house, for many years past, are so familiar to the citizens and authorities of the city, and were so fully detailed in my last report to the Department, that I need only to speak, at this time, of the great improvements effected therein during the year 1871, under the authority of the Health Board—improvements which for magnitude and completeness far surpass any hitherto attempted in the sanitary reform of the tenements of this city.

In January, 1871, I felt constrained by the serious character of the evils under which the inhabitants of "the Court" were laboring, to address a communication on the subject to the City Sanitary Inspector, in which its sanitary condition was stated at length in substantially the same terms as those employed in my Annual Report, in April of the same year. In that letter I ventured to observe that while "Gotham Court was a nuisance which, from its very magnitude, was assumed to be unremovable and irremediable," I believed that it was a legitimate object for the prompt and radical exercise of the vast and absolute powers delegated to the Board of Health, for the regulation of matters "dangerous to life and detrimental to the health" of the people. Other matters, however, intervening, no action was taken by the Board in the matter until in April following—when, by advice of the City Sanitary Inspector, I prepared a formal and detailed complaint against the premises. It received his endorsement and cordial support, and, on the 22d of June, an order of vacation was issued by the Board and duly served. The order, however, was reluctantly complied with, and was finally accomplished only by the active interference of the Sanitary Police. When the owners did set their hands to the work, it must be admitted that they did well. Mr. Isaac Stevens, under whose supervision the buildings were originally erected twenty-one years ago, was again placed in charge of the property and of the contemplated improvements; a schedule of suggestions for the proper sanitary remodeling of the "Court" was prepared by myself, and, with the approbation of the Sanitary Committee of the Board, became the basis of action; the contracts were then given out, and the work commenced—any suggestions made by myself, or other officers of the Board, during its progress, being always courteously received and as closely followed as circumstances would permit.

The improvements made were as follows: (stated in the consecutive order of the specified complaints as published on page 109 of the *Health Department Report*, 1870).

(1). The *roof* was mended where it was necessary, repainted, and divided into sections, corresponding with the tenements below, by high and strong picket fences, thus preventing boys and others from running over the roof of the entire building, and dodging, at will, up and down the scuttles of any tenement, as they could before. This improvement not only prevents much injury to the roof, whereby leaks were caused into the rooms beneath, but, it has already stopped much of the rowdyism which interfered with the comfort of the tenants, and which, before, it was utterly beyond the power of the police, or of the custodian of the buildings to stop, owing to the great facilities which the numerous scuttles and unbroken range of roof offered to the escape of culprits.

(2). The *plaster of walls and ceilings* of rooms and halls throughout, was thoroughly scraped down to the hard finish coat—in many places entirely replastered—the woodwork repaired and cleaned—the stairs repaired and cleaned, and made safe. Walls and woodwork then received coats of paint, the woodwork being furthermore grained in imitation of oak, and varnished.

(3). The *cellars* were thoroughly cleaned, disinfected, and the floors filled in and leveled to a good surface; fitted with new and convenient wood and coal bins; furnished with better light from side gratings opening upon the Court (said gratings being also so reconstructed as to prevent the ingress of persons disposed to make a hiding-place of the cellars, as also to prevent the admission of any dirt and nuisance from outside) and were furthermore *entirely separated from the old sewers*, into which they formerly opened, *by solid brick walls*. These cellars are now clean, convenient and fit for use, as receptacles for wood and coal—the steps thereto being repaired and the doors properly protected by locks.

(4). The old *sewers* over which the privy accommodations were formerly placed, have been completely renovated. As just stated, they are now completely separated from the adjoining cellars by brick walls, so that they now form well built vaulted sewers, extending the whole length (234 feet) of the premises, fully lighted by thick glass set in iron frames at intervals in the pavement of the "Court" overhead—a vast improvement on the iron gratings which formerly let out the odors of these sewers and admitted all the filth of the place into them. These sewers are also admirably flushed with Croton as well as with the flow of the rain conductors from roof and yard, and finished with a gate at the Cherry street end of the vault, so well contrived and with such a sufficient drop into the main street sewer, that, when it is lifted (as it is once a day) the entire sewer is drained to the bottom in about five minutes' time. A sidewalk on each side of the entire length of each sewer furnishes easy convenience for ascertaining the exact condition of every part of the vault, which is entered by a door at either end of the premises opening into the cellar, but kept constantly locked and entirely controlled by the janitor. It is now possible to remain, as I have done on one or two occasions, in these sewers for half an hour or more, with no inconvenience either to sense or sight, smell or touch—a sharp contrast to its former condition, as described in my last annual report.

(5). The *privies*, which were formerly located in the cellars over the sewers, have been entirely removed therefrom and placed above ground, in accordance with the general plan suggested by me in the report before referred to. The "smithy" at the further end of the Court, at rear of building known as No. 84, has been removed—the space thus gained has been well paved, the partition wall in rear rebuilt, and in the corner thus formed has been placed an iron "school-sink," 26 feet in length, sunk four feet below level of the yard, and surmounted by *ten* separate and extremely commodious privy closets; also, in the extreme corner of the yard, a urinal has been placed and properly screened from observation. In the nook or space between the front end of No. 34 and the building on the front part of the lot, has been placed another "school-sink," with *seven* privy closets, also a urinal. In Building No. 36, the first or ground floor of tenement "I" has been taken for the same purpose and fitted up with a "school-sink" and *eleven* privy accommodations and a urinal. The first, or ground floor of the corresponding building on the other Court, tenement "D," No. 38, has also been similarly fitted up, the two communicating by large iron gratings set high in the back-to-back partition, and both admirably lighted, ventilated, and kept. The first or ground floor of tenement "A," at the further or rear end of No. 38, is also similarly fitted up with *five* privy accommodations and urinal—giving a total of 44 separate privy accommodations and five urinals —all of which discharge directly into the large and tightly covered brick sewers before described.

(6.) *Ventilation*, which was before impossible in this pile of building, is now very thoroughly accomplished by the opening, on each hallway, of large apertures in the back-to-back partition between Nos. 36 and 38. These appertures are placed high up, near the ceiling, and fitted with iron bars, so that nuisances cannot be thrown, nor any passage obtained, from one hall to the other. This, with the construction of windows opening from each rear room upon the hallway, and with the total absence of the damp foul odors which were formerly thrown off from the underground privies and sewers and cellars—furnish as remarkable an improvement in the character and amount of ventilation as can well be imagined.

(7.) The *chimnies* have been repaired and thoroughly cleaned out—*leaders, eaves, sewer and water pipes, bannisters, stairs, scuttles, fire escapes, doors, windows, shutters, blinds, etc.*, overhauled—various minor improvements introduced into the rooms, for the convenience of tenants—the whole exterior of the vast range of buildings and yard walls, thoroughly painted, *privies*, *yard*, &c., well lighted at night by large gas-light lanterns, protected from damage by iron-netting—*iron gates* placed at the entrances of the East and West Courts, as well as at the Roosevelt street alley—which are locked at 11 o'clock P. M., (private keys being furnished only to those who are engaged on night work)—the janitor's apartments are near the main entrance—and the superintendent has an office in the building, where he is generally to be found. So, with the repairs, lighting, cleaning, etc., of the cellars, the total separation of the roof into distinct portions, the stricter system of supervision and the better class of tenants which has been invited here by the material changes made in the building—"*Gotham Court*" has been of late remarkably free from the rowdyism, vice and lawlessness which characterized it at the time of my complaint. Indeed, it is a pleasure now to visit it—and almost impossible to believe that it is the same premises which for many years was the foulest disgrace of the Fourth Ward. And the best feature about it is that the owners seem fully determined to do all in their power to *keep* the place in the same condition as it is now in. Mr. Stevens exercises a most rigorous supervision over the character as well as the habits of the tenants whom he accepts—and, acting under instructions from the owners, has decreed that on and after May 1st, 1872, the stores on the Cherry street end of Gotham Court shall not be occupied (as they have been for years past) by *liquor-sellers*. With their removal, "Gotham Court," it is hoped, will part with the last vestige of its ancient shame.

The repairs on Gotham Court occupied seven months of labor, during which they were tenantless, and involved an expenditure of $15,000.

It is worthy of mention that the building No. 36 and 38 (Gotham Court) was originally built by a benevolent Quaker merchant, Silas Wood, for the express and avowed purpose of benefiting the surrounding population, by offering them better and healthier living accommodations than they could find in the miserable cellars and rookeries (but especially the former) in which they then lived. The building was commenced July 5th, 1851, and completed about the middle of April, 1852, at a cost of $50,000, exclusive of the land. No. 34 (rear) which is now a part of Gotham Court was built by Mr. John Wood, brother of Silas. He owned the whole lot through to Cherry street, but sold a portion on the street end, on which the purchaser erected the building known as No. 34 *front*. Afterwards a dispute about the partition line arose between him and his neighbor, Alderman Mullins, who had erected at No. 32 the long tenement barrack known to this day as "Mullins' Court." The iraseible Alderman knocked Mr. Wood down, whereupon the Quaker quietly picked himself up—only remarking "I will pay thee for that, friend Alderman!" and without much loss of time, proceeded to erect this pile of building which placed an expanse of blank wall very directly before the windows of his neighbor's tenants—reducing the yard and ventilation space of Mullins' property to a minimum width which cannot fail to attract the attention of the visitor who chances to enter the premises. Woods' building was intended, originally, as a factory, but he was never able to use it, either for that, or as a tenement, on account of having no *means of access to the street*, (or, at least, no available means) except on his brother's property, which could not then be allowed. It, therefore, stood empty for some eight or nine years, when it, in some way, became a part of Gotham Court proper, both as to use, and management.

For some years after its opening, Gotham Court was well managed—it then changed hands, and under the new superintendent laxity gradually crept in, and was speedily followed by sanitary conditions which gave the Court a most unenviable reputation. The following table furnishes the schedule of rent, at three distinct periods, viz:

Nos. 36 *and* 38 *Cherry street.*

No. of story.	Rent when first opened.	Rent before the recent repairs.	Rent at present.
5th.	$4 50	$5 50	$6 50
4th.	5 00	6 00	7 00
3d.	5 00	7 00	7 50
2d.	5 00	7 00	7 50
1st.	4 50	5 50	6 50

No. 34 *Cherry street* rents at fifty cents less, on each floor, than Nos. 36 and 38.

There are at present 130 tenements, or suits of family rooms, of which some are yet "to let," owing to the care exercised by the agent in securing a proper class of tenants.

315 *Water street*, a 3-story and attic brick building, occupied by 9 families, was a constant source of complaint on the part of health officers—there being no less than 6 complaints against its condition on file in this office, between February 9, 1870, and September 11th, the date at which the joint complaint was made by Inspector Viele and myself, asking for an order of *vacation* from the Board. The premises in that complaint were described as "*filthy* to an extreme—walls and ceilings filthy—*plastering* broken off in several places, and to a large extent in the halls. *Passages* to and from the rooms in the upper portion of the house are very dark; the *stairways*, especially that leading to the yard, are old, rotten, rickety and so constructed (to economize space), as to render it unsafe to pass from one floor to the other. The first floor is used by rag-pickers, and is very filthy. Foul *odors* pervade the whole house, producing a sickening and depressing effect. The yard, an aperture between two buildings about 12 feet long by 3 wide, is wet and filthy from hydrant drainage and house filth. The privy, situated at its further end, is full to overflowing, and has only one seat for the accommodation of 9 families. The privy-house is dilapidated, and so filthy as scarcely to be entered, and the odors from this confined pest arise into the surrounding tenement buildings. There is no sewer in this part of Water street."

This house was vacated (September 20,) and completely overhauled, its interior being very thoroughly repaired, the stairways as well lighted and the rooms as well ventilated as the construction of the house would allow of, and the premises placed in a very habitable condition.

No. 33 *Cherry street*, was one of the first tenement houses to which my attention was called, when I entered upon my inspectorial duties in the Fourth Ward. My first visit to it was on the occasion of finding two cases of relapsing fever, both of which were removed to hospital. Repeated citizens' complaints, and regular routine visits* kept me fully advised in regard to its sanitary condition, and the subjoined sketch of its *former* state will literally describe the premises at any period since June, 1870; and, if the traditions of the Bureau of Inspection may be believed, for some time previous.

There was a front brick building, four stories and basement, connected, by stairways and galleries, with a rear building, (brick) three stories and basement. On the easterly side of this rear building, which did not occupy the whole breadth of the lot, was a yard about eight feet wide, at the rear of which was located the privy. The area between the two houses was several feet lower than the level of the yard.

Front building.—The *first* floor occupied as a store and dwelling—three rooms—rent $30. The *second* floor, four rooms—rent $60. The *third and fourth* floors rented for $26. This fourth floor was the only one in the two houses which had a plaster ceiling! The rooms on the other floors were simply ceiled with brown paper tacked up against the under side of the cross beams supporting the flooring above. This flooring, being only of a single thickness of plank, and of the cheapest sort, allowed all dust, dirt and drainage, (when floors were washed,) to sift and drain down upon the brown paper ceiling below, which thus became on its under side, black with smoke and filth, dry and cracked, and rent from heat below and moisture above, and ultimately ragged and filthy to behold. The first and second floors were always kept damp, wet and uncomfortable by a flow of roof-water which fell upon the gang-way between the front and rear buildings, thence into the rear entry and halls of the third floor—finding no obstacle, of course, in the paper ceiling. The *basement* of this front building, consisting of two low, dark rooms—had its ceiling on a level with the street sidewalk, was almost unlighted, save from door, and had no ventilation, except that (of more than doubtful quality,) proceeding from the rear area between the buildings, which was always foul and wet. This basement was constantly damp from tide-water, from long continued absence of sunlight, was defective in drainage and saturated with filth. It was, however, occupied as a human habitation, until the middle of August, 1871, when I visited the building on the reinspection of an order of the Board, and found that workmen had opened a deep hole under the flooring, in which they were endeavoring to find some leak in the soil-pipe; and, within two feet of this hole, which was half full of filthy, stinking water, laid a man, upon a bundle of rags which could scarcely be called a bed, shaking with an intermittent fever; his wife decidedly the worse for liquor, the room destitute of every comfort, and a five-bushel basket of garbage, rotted fish and refuse, standing near the back door of the apartment. It is needless to say, that I sent the man to hospital, and procured from the Board an order for the immediate vacation of the basement, as a place of human habitation.

The *rear building* was, nominally, occupied by one family on each floor; rent of each being $10 per month. It had the same style of brown paper ceiling, through which water percolated freely from a very leaky roof. The basement was, (and had been for months previously,) filled, to a depth of some four inches, with a filthy drainage from the adjacent yard, area and privy vault, which latter abutted closely against the foundation wall, at the rear. Its doors, windows, and flooring had been destroyed and carried away for firewood.

The gutters, eaves and leaders, of both buildings, were defective or wanting, and water was thus discharged from roofs, and from the waste of the hydrant, which was not properly sewer-connected, upon the pavement of the yard, thence into the area and basements of both buildings. The pavement of this yard, as well as that of the area, was broken, sunken in places and out of repair, so that it retained all this superfluous drainage. Indeed, I do not remember ever to have seen this yard, at any season of the year, when it was not wet, and parts of it fairly "ankle-deep" in filthy water. The area never received the sun-light, and was thus always damp, noisome and foul with garbage, etc. The privy had been sewer-connected, but for a long time past was obstructed, full, its walls caved in and needing repair, and it leaked into the basement of the rear house. The privy houses were always in a very filthy condition.

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* Since January 6, 1870, there have been *ten* complaints entered, in our department, against this house, including the one on which it was finally vacated.

The yard fence, stairways, windows, halls, ceilings and every portion of the buildings, were fairly rotten with dirt, grease, slimy moisture and deadly damp.

All routine procedure having failed to amend the condition of the premises, I finally asked, and through the exertions of the City Sanitary Inspector, obtained from the Board, an order of vacation, which had the good effect of bringing us into direct communication with the owner, who seemed to be honestly astonished at the condition into which the neglect and cupidity of his agent had brought the property. He was furnished with a schedule of suggestions as to repair, and promptly set about the work. The result has been, in the highest degree, satisfactory—the repairs introduced have virtually amounted to a complete rebuilding of the premises, as all but the walls and floor beams have been made over anew; and the building is now, in many respects, the best tenement house in the ward—reflecting great credit upon the liberality of the owner, who not only complied with—but also exceeded, the requirements of the Board, in his efforts to improve his property.

The entire woodwork of both houses has been repaired, or replaced with new; walls and ceilings well and properly plastered, rooms rearranged, ventilating windows provided, besides mantel-pieces, neat cupboards, new doors, floors, window-frames and sashes, and new galleries and stairways between the two buildings. Chimnies, eaves, gutters, leaders, repaired, and new roofs put on; yard and area repaved; privy-vault rebuilt and sewerage corrected, ventilation shaft furnished to privy house, a twelve-foot fence erected on the easterly side of the yard; both basements cleaned, floored, and suitably arranged as wood and coal closets, and the outside and inside of premises painted. Permission to reoccupy was granted by the Board early in January, 1872.

The premises, which were formerly leased to an agent for $1100 per annum, are now renting to tenants at the following prices: *Front building*, first floor (including store,) $50; second and third floors, $25; fourth floor, $24. *Rear building*, first and second floor, $15; third floor, $14; a total of $1,416 per year, as against $1100 rent formerly received from the agent, and $1 ,752, as extorted by him for tenants.

No. 17 *Cherry street*, a frame tenement, four stories high, with basement, occupying a "gore" of ground of 22 feet front and eight feet width at rear, and tenanted by seven families. The roof of this domicile was as "leady as a sieve," affecting the comfort of inmates even to the second floor; the walls, ceilings and woodwork of the whole house, shaky with age and bad usage, and rotten with filth; the fire-places destroyed and dangerous; the partition walls of thin, ill-fitting plank, papered with foul and ragged paper. The alleyway through basement was dark, extremely filthy and dangerous in every respect. The basement itself was occupied for "lodgings," (4 beds) walls crumbling, floor rotten and damp, ceiling below the level of the street, and there was no light except through the front and rear doors. The yard of this house was not paved, only covered loosely with old and rotten planking—the rear basement steps decayed and dangerous. The privy vault was insufficiently connected with the sewer, but obstructed, and not being flushed, was full of solid excremental filth to the surface of the yard. There was no privy house—roof, walls, receptacle and seat had gradually been broken down and removed, until nothing was left but a hole in the loose planking which covered the vault, and when used, those using it were exposed to the gaze of the occupants of the surrounding houses and yards, with nothing intervening but the rickety yard fence, and an old door propped up, out of compliment to modesty, on one side.

Five complaints had been entered to the department against this condition of things, since February 9th, 1870, but with no effect, and an order of vacation was brought against it. This was followed, after some demur, by an attempt to renovate the old shell, on the "whited sepulchre" plan, by painting its front and whitewashing the interior a little. The owners, however, were kept firmly to the letter of instructions from the officers of the Board, and finally, a very desirable degree of improvement was obtained; as much, indeed, as the structural condition and value of the premises warranted, and enough to make it tolerably fit for occupation until the 1st of May, 1872, when, as I have every reason to believe, the place will be entirely rebuilt.[*] The building has hitherto brought the lessee in about $950 rent per annum.

Of the above described group of *improved* tenement houses, No. 33 and Nos. 34, 36, 38, Cherry street, (*Gotham Court*) now present the most satisfactory results—owing, in part, to the fact of their size, and the aggravated character of their previous unsanitary conditions; and, in part, to the very thorough manner of their reformation. No. 17 Cherry, 31 and 38 James, and 313 Water street, present less satisfactory results, owing mainly to the peculiar structural condition of the premises, which limited, in some degree, the proper application of sanitary measures of improvement. Of the six houses named *four* were located on opposite blocks, within easy stone's throw of each other, and their renovation has produced a very marked change in that locality, which already—and partly on account of these improvements—is beginning to rank as "the Court end" of Cherry street.

I may also remark, in closing, that the results obtained by the *entire vacation* of these houses—as an indispensable preliminary to making repairs therein—are in very striking contrast to those obtained in certain tenements on the west side of the city (in whose improvement I have been incidentally interested) where vacation was *not* fully complied with prior to repair. It is only when a house of this description is entirely emptied of inmates and their chattels, that its unutterable worthlessness stands fully revealed, and proper plans for its renovation can be considered and decided upon. Furthermore, it is only in an empty house that workmen can do justice to its necessities. An "order of vacation," also, brings owners and agents to a "realizing sense" of their duties, and affords a consequent relief to their tenants, which is not obtained by any ordinary routine order. In confirmation of this, I may state that of the six premises above described, *all but one*, were owned by non-residents of the city—who, for years had left their property entirely to the care of agents—and who, but for the order of vacation, would probably have remained in entire ignorance of the condition of their houses. When brought face to face with the true state of things, it is but just to say that they frankly admitted that the Board was only doing its duty in compelling them to renovate and repair.

SUMMARY

Of Inspections and Complaints made in my District, from April 1st, 1871, to April 1st, 1872.

INSPECTIONS AND REINSPECTIONS.

Tenement houses (inspected)	1472	Fat-rendering establishments (inspected)	13
" " (reinspected)	607	Market and market places (inspected)	11
Private houses (inspected)	99	Piers and bulkheads (inspected)	36
Boarding and Lodging houses (inspected)	46	Stables (inspected)	13
Other dwellings	14	Slaughter houses (inspected)	1
Cellars and Basements (inspected)	263	Yards and vacant or sunken lots (inspected)	34
Public buildings (inspected)	4	Streets, sidewalks and Pavements (inspct'd)	89
Stores and warehouses (inspected)	355	Dumping grounds (inspected)	1
" " (reinspected)	79		
Factories and workshops (inspected)	52	Total inspections and reinspections	3,190
" " (reinspected)	4		

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[*] This is now done, November, 1872.

COMPLAINTS MADE AGAINST THE FOLLOWING:

Tenement houses	158	Fat-rendering establishments	1
Private dwellings	14	Privies	26
Cellars and basements	4	Streets and pavements	
Markets	2	Piers and bulkheads	
Stores and warehouses	14		
Gutters and pavements	6	Total	
Factories and workshops	1		

CONTAGIOUS DISEASES INSPECTED AND REPORTED UPON.

Small-pox and Varioloid	53	Sent to hospital	44
Measles	2		
Scarlet fever	6		
Chicken-pox	3		
Relapsing fever	2	Sent to hospital	
Typhoid fever	1	" "	1
Typhus fever	1	" "	
Total	68		

Vaccinations 30, of which 4 were primary.

Respectfully submitted,

HENRY R. STILES, M. D., *Health Inspector.*

NEW YORK, *April 1st*, 1872.

NINTH SANITARY INSPECTION DISTRICT.

INSPECTOR, W. H. B. POST, M. D.

DISTRICT *bounded by Grand and Catharine streets, Bowery and East River.*

DR. MOREAU MORRIS, *City Sanitary Inspector:*

SIR: I have the honor to submit the following report of the sanitary condition of my district during the past year; of the labor performed by me therein during the same period, and of the general improvements which have taken place.

Tenement Houses.—A very decided improvement has taken place during the past year among the tenement houses in every portion of the district. I find a much more ready disposition than ever before among tenement house owners to comply with sanitary suggestions from me. It is now simply necessary in many instances to request the removal of a nuisance in order to secure its prompt abatement, without an order from the Board. So much has been done in former years in the way of structural improvement, that I find it necessary only in very rare and urgent cases to recommend any very expensive alterations in the tenement houses and their surroundings. With defective ventilation, which in past years has been perhaps the source of more misery and sickness than any other single cause, the Inspector now has seldom to deal. I know of hardly a tenement house in my entire district where the bed-room and hall ventilation is not in strict compliance with the letter, and in almost every instance with the spirit of the law. It is a rare exception now to find a privy vault or water closet upon tenement property unconnected with the sewer, where there is a sewer in the street. There are some streets, such as Front street and the larger portion of Water street, which are still unsewered, and where, from their proximity to the river, a sewer would, in my opinion, be undesirable for reasons which I have given in a former report, such as tidal reflux, &c. In these cases all the privy vaults in entire blocks will fill with surface water, excrement and urine, several times a year, and emptying, cleansing, and disinfection have to be insisted upon as often as occasion may require. In the worst portions of the tenement house sections the efforts of the Inspector seem often to be almost utterly in vain. I have entered separate complaints, in repeated instances, against individual tenement houses in an entire square, and after intervals of longer or shorter duration have seen filth removed and cleanliness apparently established in every case, where upon a second inspection, a few weeks later, I have found the houses and their surroundings relapsed into their original foul condition. It is a thing next to impossible to secure permanent cleanliness in houses occupied by a naturally and radically filthy class of tenants. The only resource left to the Inspector is to exercise continual vigilance among these people, and to complain over and over again against the nuisance as often as it is encountered. Local superintendence on the part of agents and house-keepers is, after all, the only effectual means of securing permanent reform in the condition of these houses.

Ventilation.—As remarked above, the ventilation of tenement houses throughout the entire district is now almost universal, leaving very little for the Inspector to suggest in the way of improvement. There is a class of houses, however, and this by no means a small one, where the ventilation of the sleeping rooms, although technically complying with the law, is in reality almost nothing. I mean those tenements whose rear walls approach to within a few inches of the rear walls of adjacent houses in another street, and where the only means of ventilation are small windows communicating with the contracted space between the two walls. Here the strict letter of the law is carried out, as the sleeping rooms, by this arrangement, do actually "communicate directly with the external air" by windows, while practically the ventilation is little better than none at all. I see no remedy for such cases under the present reading of the tenement house laws.

Cellars and Basements.—The few cellars in this district occupied as human habitations, are in a very fair sanitary condition, having, as a general rule, good drainage and light, with through and through ventilation by means of doors and windows, ample excavated area in front and rear, and boarded floors resting upon beams or joists which raise them a number of inches above the ground.

Ashes and Garbage.—During the winter season the worst streets in the district have been almost totally neglected by the street cleaning contractor. Immense heaps of ashes and garbage have remained for weeks and months together untouched, frozen into compact centres of filth many feet in length and breadth by the snow and ice, waiting for the warmth and rains of spring to send them flowing along the streets and gutters in semi-liquid streams. Where street-cleaning has been nominally attempted, the work has been done so carelessly and at such rare intervals that very little has been done beyond stirring up the foul masses and removing the loose superficial layer. I do not believe that under the present system of contracting for street-cleaning we shall ever see the streets in anything approaching a cleanly condition. Street-cleaning is a work which properly comes within the province of a Board of Health, and until that body shall become invested with its control, I do not anticipate any better condition of affairs than we have had heretofore. Much of the filth in our worst streets, to be sure, depends upon the habit of the tenants in throwing their ashes, slops, and garbage directly into the streets and gutters; this habit being a consequence resulting from the scanty provision made by tenement house owners in the matter of garbage and ash receptacles. It seems to me that the most effective plan yet proposed for the proper disposition of the refuse matter which so rapidly accumulates in tenement houses, is that which compels each house to be furnished with separate and portable vessels, of sufficient size, lined with or composed of metal, in which garbage and ashes shall be deposited by the tenants. These vessels may be kept standing in the yard, hall-way, or on the street sidewalk, and should be emptied and their contents removed before they become offensive. I have succeeded in very many instances in having such vessels supplied, and the result has invariably been a much cleaner condition of the adjacent streets and gutters. Where the garbage and ash boxes are of a proper character and are regularly used, the responsibility of the cleanly condition of the streets will naturally rest entirely with the contractor. The excuse hitherto so often pleaded by that official that no matter how thoroughly his part of the work be performed, the carelessness and willfulness of the tenants will always keep the streets filthy, will then have little or no foundation. As illustrative of the improved condition of streets resulting from the supplying of such vessels to tenement houses, I refer to portions of East Broadway, and Henry, Madison, and Monroe streets, where the "iron-clad ash can" is used somewhat extensively, and with very good effect. Another very general cause of the filthy condition of streets is the wretched state of the old cobble-stone pavement which prevails extensively throughout the greater portion of the Seventh Ward. Hardly a block is in good repair, being filled with large holes innumerable, in which refuse matter of every kind accumulates. I have made a large number of separate complaints against particular streets in this respect, but thus far very little has been done in the way of repairing them.

Privies and Water-Closets.—Continued observation confirms me in the opinion which I have expressed at length in a former report, that the ordinary deep privy vault is more suitable for tenement houses and less liable to become offensive than the water-closet. In the first place the water-closet is almost invariably situated within the house or in immediate proximity to it, and when through carelessness or otherwise it becomes out of repair, and fecal matter accumulates in the hopper, the stench is overpowering, being confined in a small closet within the building. On the other hand the privy vault is, as a rule, situated at the further end of the yard, and the offensive odors therefrom have to traverse a considerable intervening space before reaching the interior of the house. Again, when the privy vault becomes full, if the fullness depends upon obstruction of the sewer-pipe, it is a very simple thing to remove the obstruction and thus allow the offensive matter to flow into the sewer. If there be no sewer connection it is a comparatively easy thing to empty the vault by means of buckets and to cart the excrement away. But a water closet, with its complicated arrangements for flushing and trappage, is a much more difficult thing to keep in proper condition, and is much more liable to become offensive from temporary obstruction of the soil-pipe. By far the best variety of privy, in my opinion, is the "school-sink." This consists of a long, shallow, metallic trough, connected with the sewer at one extremity, the orifice of the sewer connection being provided with a moveable plug which may be introduced or removed as often as occasion may require. In school-sinks there should be a constant flow of water for flushing purposes. The practical working of these sinks is so simple that it is almost impossible to conceive of any nuisance attending them, except through the grossest carelessness on the part of the tenants.

Sewerage.—A sewer has been constructed in Water street, between Jackson and Scammel streets, since my last report, and nearly all the tenement houses in this block have since been connected therewith. This is, as far as I am aware, the only instance where a sewer has been put in at any point in my district during the past year.

Piers and Wharves.—The condition of piers and wharves has been very fair all along the water-front, many long-needed repairs having been made since last spring. The pier at the foot of Gouverneur street which has been used as a rendezvous for the boats of the Street Contractor, has been frequently complained of to me by citizens living in the neighborhood as a grievous nuisance; but I have as frequently inspected it and found nothing offensive in its condition.

Street Cars.—The only lines of street-cars having their depot in my district are the "Courtlandt street" and "Grand street cross-town" branches of the "Dry Dock, East Broadway, and Battery Railroad." This depot is situated at the corner of Cherry and Corlears streets, and is invariably kept in admirable sanitary condition, no filth or source of offensiveness having ever been found in any portion. I have carefully examined all the cars on both these lines, and found them, without exception, in excellent condition in every respect, with perhaps the single exception of insufficient ventilation. Two men are constantly employed at the depot, whose duties are to attend to keeping the cars in cleanly condition. I need not here refer to this matter at greater length, as I have recently submitted a special report on the subject to the City Sanitary Inspector.

Stables.—The condition of stables has improved in a very decided degree during the past year. The thorough inspection of stables, under the special order of the Board, more than a year ago, and the complaints made by the Inspector at that time, have had their result in supplying almost every stable in the district with a covered manure box or vault, in which the manure is deposited daily for subsequent removal. The principal present source of nuisance in stables lies in the fact that the removal of the manure is oftentimes delayed too long, accumulations taking place in the stable yards after the boxes or vaults are full.

Lard-Rendering.—I have only two establishments where lard-rendering is conducted in any considerable quantity, one being in Division street, the other in Monroe street. In each of these places the apparatus employed is perfectly steam-tight, and entirely devoid of nuisance, having been thoroughly inspected and approved by myself, and receiving the sanction of the Board of Health. Nothing but fresh fat is rendered. Almost every butcher shop in the district has a small covered kettle in the back room, in the yard, or in the cellar, in which a few pounds of fresh pork clippings are tried out once or twice a week. This is done, however, in such insignificant quantities and in such a careful manner as to be productive of no offensive odors.

Contagious Diseases.—It is hardly necessary for me to refer at length to the management of contagious diseases in the tenement houses, as it has been so often alluded to by other inspectors as well as myself. The same unvarying vigilance has been observed in disinfection and fumigation of infected houses as in former years, and the same promptitude exercised in the removal of patients to hospital. I have as yet never had occasion to regret the removal of any patient; and in the very few instances where, from peculiar circumstances, isolation has been practiced, it has only been advised after the most careful consideration of all the surroundings, and with extreme reluctance on the part of the Inspector. Small-pox is emphatically a disease of the winter months, weeks together passing by during warm weather without the occurrence of a single case. During the isolation of any patient, then, he is confined in his room, with doors and windows carefully closed to exclude the cold air, and for days and even weeks the virulent poison of the disease is shut up in the house, contaminating its atmosphere, and saturating the clothing, bedding and furniture of the apartments with contagion. Moreover, it is next to impossible, considering the scanty accommodations of the tenement house population, to secure anything approaching to perfect isolation The other members of the family and sympathizing friends of the patient are constantly coming to and going from the sick room, contracting the seeds of the disease in their own persons, and disseminating them broadcast among their neighbors. Relapsing fever has apparently disappeared altogether from my district. I have had but two cases since April last, and have not seen nor heard of a case during the past ten months. Varicella is frequently met with, some cases being so strong in their resemblance to small-pox as frequently to confuse me for a time in my diagnosis, and sometimes leading me to believe in the theory of the identity of the wo diseases. Scarlet fever and measles are about as frequent as usual, and are treated, when considered necessary, after the thorough method prescribed in the printed rules of the Board of Health. Typhus and typhoid fever, not having occurred in an epidemic form or in any unusual degree, have received very little attention from the Inspector.

SUMMARY.

INSPECTIONS AND REINSPECTIONS.

Tenement houses	2881	Vacant lots	8
Slaughter houses	42	Sewers, drains, cesspools, &c	30
Dwellings	113	Public buildings	2
Stables	152	Streets, gutters, sidewalks, &c	306
Privies and water-closets (special)	599	Chimneys	5
Stores, manufactories, &c	279	Street cars	48
Fat-rendering houses	11		
Cellars and basements (special)	139	Total	4807
Yards, courts, and areas	192		

REPORTS FORWARDED.

Tenement houses	1128	Vacant lots	8
Slaughter houses	1	Sewers, drains, cesspools, &c	29
Dwellings	28	Public buildings	0
Stables	116	Streets, gutters, sidewalks, &c	192
Privies and water-closets (special)	483	Chimneys	5
Stores, manufactories, &c	12	Street cars	1
Fat-rendering houses	10		
Cellars and basements (special)	83	Total	2207
Yards, courts, and areas	111		

CONTAGIOUS DISEASES VISITED.

Small-pox	283
Measles	6
Relapsing fever	2
Typhus fever	4
Typhoid fever	10
Scarlet fever	36
Cerebro-spinal meningitis	11
Chicken-pox	14
Vaccinations performed	383

All of which is respectfully submitted,

W. H. B. POST, M. D., *Health Inspector*.

NEW YORK, *April* 1, 1872.

TENTH SANITARY INSPECTION DISTRICT.

ASSISTANT INSPECTOR, A. B. JUDSON, M. D.

DISTRICT, *Bounded by Canal and Chatham streets; the Bowery and Broadway.*

MOREAU MORRIS, M.D., *City Sanitary Inspector*.

SIR: I have the honor to present the following report on the condition of the Tenth District for the past year.

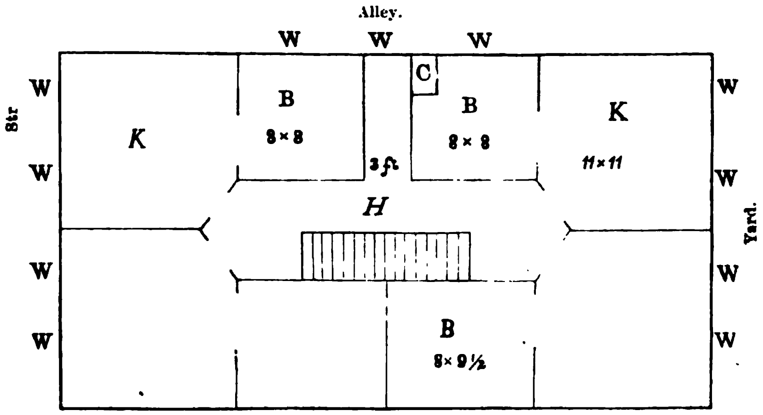
Drainage of "the Collect."—A large portion of this ward is made land, formed by filling in the "Collect Pond" and the surrounding marsh. The old pond and its outlet to the North River are gone from sight, but they have left a mischievous legacy in the shape of damp basements. The pernicious items of this bequest are now distributing to the heirs

—to one, a moiety of rheumatism; to another, consumption; to another, a dumb ague; and, to all, the poverty and sorrow which follow sickness and death. I wish to suggest a new plan for draining this spot. Let a well be sunk in the right place and kept dry by steam or wind.

Bad condition of New Worth street.—New Worth street is still the "Slough of Despond" of this District. The extension from Baxter street to Chatham Square is not yet finished. Instead of being an improvement, it has thus far made the Five Points more unclean than before. These two blocks, adjoining Chatham Square and but a short distance from Broadway, are occupied by huge mounds of earth and rubbish. They have never been graded, paved or sewered. They are vacant lots for the deposit of garbage and filth rather than a habitable street. The ground is partly covered with deep mud and broad pools of stagnant water. The desolate waste is relieved by a privy house which stands near the middle of the street, for the use of two large tenement houses, one on either side. Ditches have been dug to lead away slop water from the tenement houses, one ending in a stagnant pool and another emptying into the cellar of a new iron-front store.

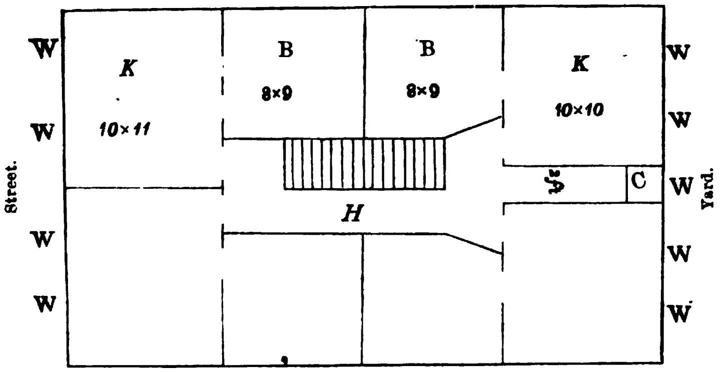
The speedy completion of this work would greatly improve the sanitary condition of this ill-famed quarter. It would "kill the Points," as the people of the neighborhood say, by sending directly through its centre a stream of business and travel. It is said that public work at this point has been delayed by a disagreement among the owners, some desiring a high and others a low grade. A *high* grade should be taken—the higher the better.

Dark Halls in Tenement Houses.—Section 15, of the Tenement House Act of May 14, 1867 provides for the lighting and ventilation of the halls in new tenement houses in the following words: "The halls on each floor shall open directly to the external air with suitable windows." With scarcely an exception, all the houses built since the passage of this law, have been built either in ignorance of or contempt for this wise sanitary provision. I have seen two houses which comply with the law in this point, and present herewith the floor plans of these houses to show that new tenement houses may be planned in compliance with the law.



53 Oak street. 2d, 3d, 4th and 5th floors.

B—Bedroom.
C—Croton water.
H—Hall.
K—Kitchen.
W—Window.
Figures represent linear feet



24 Clinton street. Front, 2d, 3d, 4th and 5th floors.

B—Bedroom.
C—Croton Water.
H—Hall.
K—Kitchen.
W—Window.
Figures represent linear feet.

Filthy Streets and Gutters.—The city has suffered the past year, as heretofore, from the neglect of the authorities to keep the streets and gutters clean. "Street manure" obstructs the gutters and smears sidewalks and door-steps. In dry and windy weather it is pulverized and distributed everywhere, soiling our persons and clothing and defiling our very breath and food.

I have kept a diary in order to ascertain how many days in the past year the city has suffered from the above causes. The following are among the most striking entries in my daily record:

December 5th, 1870—Dry and windy; dust in whirls on Broadway. *December* 13th—Damp; streets muddy. Well paved streets are perfectly clean. (Flushed by a rain the day before.) *December* 15th—Dry, very windy; dust flying in clouds. Evening. Clothes full of dust; face, ears and neck dusty; eyes inflamed; Conjunctivitis so severe as to prevent reading. *December* 18th—Dry, windy, dusty; avenues dim; aërial prospective. *December* 24th—Windy; dust in clouds all day; nostrils and eyes full; Conjunctivitis evening. *December* 27th—Windy, dusty; a lady complaining of the way her clothes suffer from dust; dust in eyes; linen soiling quickly. *January* 13th, 1871—Very muddy; Baxter street extremely filthy. *March* 1st—Crossings and shady streets muddy; dust flying on Broadway. *March* 7th—Deep mud in streets. *March* 11th—Deep mud in 6th and 14th Wards. *March* 19th—Very muddy; West street in a fearful state. *May* 25th—Dry, windy, dusty; Conjunctivitis; dust in air passages, hair and clothes. *June* 4th, P. M.—High wind; heavy cloud of dust over the city one-half hour, followed by rain; evening, Conjunctivitis. *June* 17th—Dry still; dust from teams. *September* 8th—Dry, windy, clouds of blinding dust; furniture and clothing dusty; Conjunctivitis, evening. *November* 14th—Rainy; muddy. *November* 30th—Windy; clouds of dust. *December* 26th—Rainy; very muddy. *January* 17th, 1872—Dry, windy; clouds of dust. *January* 20th—Damp; muddy. *January* 23d—Dry; clouds of dust. *February* 6th—Thawing; seas of mud.

During the past year I have failed to make record of 16 days. Of the remainder, 72 days have been made disagreeable by the nuisance of mud, and 94 by the nuisance of dust. The obvious remedy for this discreditable condition of the streets and gutters is the favorite remedy of every good housekeeper—a more liberal use of the broom.

Vaccination.—The following table includes all the cases of small-pox which I have inspected and reported officially the past year. It shows, 1st, the number of patients who had never been vaccinated. 2d, the number proved to have been vaccinated by good vaccine scars, and 3d, the number of cases in which information was not obtained.

	Number of Cases.	Average Age.
Unvaccinated, from 3 weeks to 30 years	24	3.8
Vaccinated, from 5 years to 50 years	33	25.3
Unknown, from 3½ years to 48 years	34	21.0
Total	91	18.0

Revaccination.—The protective power of successful revaccination is illustrated by an analysis of the cases exhibiting vaccine scars. These cases group themselves as follows :

Never revaccinated	22
Unable to state whether revaccinated or not	3
Revaccinated without success	3
" but unable to state whether with or without success	2
" successfully 20 years before	1
" " 15 "	1
" " 6 "	1
Total	33

Unlike the vaccine vesicle, the revaccine pustule leaves no scar. In the last three cases no scar was found except vaccine scars of infancy, and the fact of successful revaccination and the time that had elapsed since its performance, are given on the statements of the patients themselves.

Variola and Vaccinia.—In the above 91 cases there were a number in which vaccination had been performed *unsuccessfully* but a few days before the patient was taken ill with the initial fever.

No. 1. Age 16 days ; vaccinated by family physician 15 days before illness.
No. 2. Age 10 weeks ; vaccinated by Health Inspector 9 days before illness.
No. 3. Age 6 months : vaccinated by family physician about 10 days before illness.
No. 4. Age 11 months ; vaccinated by family physician 9 days before illness.
No. 5. Age 24 years ; revaccinated by family physician about 14 days before illness.
No. 6. Age 30 years ; revaccination by family physician about 12 days before illness.
No. 7. Age 32 years ; revaccinated on board an emigrant steamer about 8 days before illness.

Is it possible that the vaccinator was in some way the innocent cause of the disease in these cases? However this question may be viewed, it is evident that the fight against small-pox has been waged at close quarters, since, in a number of recognized cases, variola and vaccinia have contended for possession.

In the above 91 cases there were three in which the two eruptions were synchronous. No. 1, age 2 years: The variolous eruption appeared on the 6th day of vaccination. On the 14th day of vaccination the two eruptions were in the same stage of maturation. The disease was of mild type.

No. 2, age 9 years: Illness began on the 3d day of vaccination. The variolous eruption appeared on the 6th. On the 11th day of vaccination there was a very good vaccine pustule, and the variolous eruption was in the same stage. The patient recovered. In these two cases it did not appear that either eruption hastened the progress of the other.

No. 3, age 22 months: The variolous eruption appeared on the 6th day of vaccination. On the 8th day there were two very good vaccine vesicles, and the variolous eruption consisted of papules and red points. Death occurred on the 10th day of the small-pox eruption. I am informed by Dr. L. P. G. Gouley, of the hospital, that "the vaccination did not modify the disease in any respect." It is noticeable that in each of these three cases the variolous eruption appeared on the 6th day of vaccination.

The following table shows the number and disposition of all the cases of small-pox in my district, that have come to the knowledge of the Board during the past year:

	Died.	Recovered.	Total.
Removed to hospital by Board of Health..........	13	23	36
Isolated at home " " "	1	3	4
Absconded to escape removal to hospital.........	0	6 ?	6
Concealed to avoid " "	6	2	8
Total..................................	20	34	54

SUMMARY.

INSPECTIONS.

Tenement houses....................	2136	Manure ground...........................	1
Cellars and basements....................	450	Fat-rendering establishments..............	5
Privies....................................	394	Markets and market places...........	10
Yards and areas..........................	209	Factories and workshops..................	37
Roofs.....................................	12	Stores and warehouses..................	251
Leaders....................................	35	Private dwellings..........................	55
Pipes and drains...........................	57	Boarding houses..........................	9
Hydrants....................................	3	Other dwellings............................	4
Catch basins...............................	16	Public buildings............................	4
Gutters.....................................	48	Smoky chimneys..........................	51
Sidewalks...................................	26	Dangerous chimneys......................	2
Streets and alleys........................	155	Vessels (small-pox)........................	11
Vacant lots.................................	5	" (rags)..................................	1
Piers..	7		
Stables......................................	12	Total....................................	4006

COMPLAINTS.

Tenement houses..........................	59	Hydrants..................................	2
Cellars and basements....................	40	Catch basins..............................	5
Privies......................................	59	Gutters....................................	6
Yards and areas..........................	35	Sidewalks..................................	6
Roofs..	1	Streets and alleys........................	6
Leaders......................................	11		
Pipes and drains...........................	16	Total....................................	247

CONTAGIOUS DISEASES INSPECTED.

Small-pox..	134
Relapsing fever..	8
Typhoid fever..	13
Scarlatina..	28
Cerebro-spinal meningitis.................................	22
Total...	205
Vaccinations in dwellings..................................	47
Revaccinations "	188
Total...	245

Respectfully submitted,

A. B. JUDSON, M. D., *Assistant Health Inspector.*

NEW YORK, *April* 1, 1872.

ELEVENTH SANITARY INSPECTION DISTRICT.

ASSISTANT INSPECTOR, EDWARD FRANKEL, M. D.

DISTRICT BOUNDS.—*East Houston, Grand and Essex streets, and the East River.*

MOREAU MORRIS, M. D., *City Sanitary Inspector.*

SIR: I have the honor to present the following report concerning the Sanitary condition of the Eleventh Sanitary District, during the past year, dating from April 1st, 1871:

An important improvement is manifest in the gradual removal of old frame houses and former private dwellings, to make way for the erection of proper buildings, in conformity with the Tenement House Law. These are inhabited by the better class of mechanics and laborers, and their general condition is, with few exceptions, a good one: cleanliness and the removal of all filth, ashes and garbage being supervised by a housekeeper or the presence of the landlord himself. The insalubrity of some old tenement house localities, however, especially in Ridge, Pitt, and Willett streets, is enhanced by the habits and occupations of their inhabitants. Complaints against the owners of these for neglect of cleanliness appear useless, as they result only in by a temporary abatement of the nuisance, followed by violations as before.

Bedroom and hall ventilation in most of tenement houses proper, is perfect, but in those of old construction and of former private dwellings, mechanical difficulties prevent their adoption. I would again urge the importance of enforcing ventilation in these houses, by the use of wired sashes to the windows, with meshes sufficiently small to prevent strong gusts of air from the halls; as, in these localities where the tenants have become acclimated to the noxious odors, the ventilating windows are kept closed constantly. In some houses a large ventilating flue, extending from the cellar to the roof in the centre of the building, contributes materially to proper ventilation.

Privies, etc.—Complaints by citizens against filthy privies and obstructed sewer-connections, have not been very frequent. In some of the poorer localities the tenants are in the habit of emptying ashes and garbage into the vault, thus causing obstruction: though the cause has also frequently been found in the street sewer itself, and not in the connecting drain. Where the tenants are of filthy habits and access is not barred to passers-by, the yards and privy seats are continually defiled in the most shameful manner. It is questionable whether the presence of a sewer connection to every privy vault contributes to the sanitary condition of the premises. Where it does not exist, the owner has all filth removed at requisite intervals, whereas in case of sewer connection, the bottom of the vault is never emptied, the filth continues to ferment, and is constantly being stirred up by the rain, or by waste water from the yard hydrant. Wet and filthy cellars from damaged sewer-pipes are a common cause of complaint.

Ashes and Garbage.—Violations of the section relating to the provision of proper receptacles for garbage and ashes have been few in number. Though no particular kind of receptacle is used, boxes, cans or barrels being made to serve the purpose, it would seem desirable that some particular receptacle be required. The garbage is removed quite regularly by the ash-man, but is frequently maliciously spilt into the gutters and streets, and then allowed to remain and decompose for an indefinite time, instead of being again taken up by the shovel.

Pavements.—The repavement of a portion of the district during the past year would have materially added to its sanitary appearance and improvements, had not such thorough neglect been shown in the cleansing of the streets, especially during the past few months. In fact, I may say that during my charge it has never been accomplished

thoroughly. The streets in this portion of the city are obstructed by vehicles, the temporary removal of which, during sweeping, is essential, in order to enable the removal of all filth. And even when swept in an imperfect way, neglect has been shown in the final carting away, the heaps of filth being again disseminated by passing vehicles throughout the street, before their removal was accomplished—thus interfering with drainage by clogging the gutters, rendering the crossings filthy and the air pestilential.

Cellars, etc.—**The occupation of cellars and basements which have not complied with every sanitary regulation, have been entirely prohibited. One hygienic necessity, however, can never be attained in these low dwellings, viz:** *ventilation.* **They are usually in the basement of former private dwellings—kitchens and store-rooms now serving the purpose of dwellings. Families of eight to fifteen members are often huddled together in one room of a night—the expired air contained in it being sufficient to contaminate the blood of one human being, not to speak of such a number. Higher locations in tenement houses can be obtained for an equivalent amount of money, and hence the occupation of cellars should be entirely prohibited. They are looked upon by the lower classes as desirable acquisitions, as they furnish convenient resorts for night lodgers.**

Street Sewerage.—**I would strongly recommend the necessity of establishing sewerage in the following still unsewered streets: Mangin, Goerck and Tompkins streets, which are reclaimed land. The waste water and filth from the gutters is discharged by miserably constructed drains at the foot of Houston, Stanton, Rivington and Broome streets, into the river; they often become obstructed, and unless washed away by a copious fall of rain, the filth in the gutters accumulates for weeks, adding, together with the filthy habits of the inhabitants, to the insalubrity of the neighborhood. The establishment of sewers in the following streets is also desirable: Attorney street, between Grand and Broome; and between Stanton and Houston streets; Pitt street, between Broome and Delancey streets; Sheriff street, between Broome and Grand streets; Cannon street, between Grand and Delancey streets.**

Stables.—**These constantly furnish causes for complaint. The covers of the manure boxes are often maliciously removed, and the owners refuse to keep them covered. Filthy yards are the rule, by sewer-drainage becoming obstructed, and the liquid filth flowing into the yard. The remedying of these nuisances is accompanied with great difficulty, as many of the owners reside out of the city and cannot be reached by the orders of the Board.**

Smoke Nuisances.—**Among other nuisances that have given cause for complaint may be mentioned those of smoke issuing from factories, poultry-yards, sausage and fat-rending establishments. To a great extent these have been abated.**

Small-Pox.—**The Board has encountered many obstacles in the suppression of the epidemic of small-pox; first, in the concealment of the patient without medical attendance; second, in the criminal neglect of the attending physician to report the case; third, in a superstitious dread of vaccination indulged in by many people. A thorough "house to house" search instituted by the inspectors has revealed a number of unreported cases which were immediately transferred to hospital. Cases in which isolation is practicable, are few in number. If allowed to remain, even under the most favorable circumstances, the friends, notwithstanding all directions, incline to the idea that there is no real danger, and will hold and allow intercourse with the patient. The passage of a law, permitting the Board to insist on compulsory vaccination would be beneficial. In the minds of the majority of our foreign population the idea prevails, that one primary vaccination in childhood, is a preventive throughout life. The idea, as held by many, that inoculation from the "natural pock" as practiced many years ago on some of the older foreigners,** will also insure immunity from an attack of small-pox, is also disproved by the evidence of writers, who state in the majority of cases, the inoculation was practiced by incompetent persons and not by virus from the small-pox vesicle or pustule, but from the surface of the sore under the scab after the 14th or 16th day, which in many cases was followed by no eruption whatever. This accounts for the occurrence of small-pox in persons who had refused vaccination, stating that they had been "inoculated" in childhood.

Cerebro-Spinal Meningitis.—Several cases of disease taking the form of Cerebro-Spinal Meningitis have lately occurred in apparently healthy portions of the district; the premises were provided with good drainage and no cause has as yet been ascertained. They do not seem to be of a contagious nature, but appear to be of malarial origin.

SUMMARY.

The following is a summary of the labor performed by me since April 1st, 1871, in inspection and re-inspection.

Tenement houses	2441	Sausage manufactories	10
Private dwellings	101	Grain elevators	2
Privies	119	Cellars and basements	35
Yards	3	Sewer-culverts	2
Factories and work-shops	20	Lumber yards and saw mills	16
Fat-rendering establishments	9	Galvanizing establishment	1
Premises occupied by stables	396	Iron foundries	2
Gutters and sidewalks	49	Cars	27
Smoke nuisances	12	Cases of contagious disease	222
Poultry-yards	8		
Rag-houses	2	Total	3482
Vacant lots	5		

NUMBER AND CLASSIFICATION OF COMPLAINTS AGAINST

Tenement houses	365	Alleys	2
Private dwellings	12	Streets	1
Factories	3	Gutters	10
Fat rendering establishments	2	Sewer-culvert	1
Galvanizing establishments	2	Pavements	19
Stables	62	Dining saloons and public buildings	7
Privies	26	Rag house	1
Sausage manufactories and smoke-houses	2	Poultry yards	2
Saw mills	3	Gut-cleaning establishment	1
Cellars and basements	38	Grain elevator	1
Yards	33		
Hydrants	2	Total	695

Number of houses visited for vaccination	305
Primary vaccinations	16
Re-vaccinations	366

CASES OF CONTAGIOUS DISEASE.

Variola and varioloid	139
Varicella	13
Scarlatina	51
Measles	3
Typhoid Fever	12
Relapsing Fever	3
Cerebro-Spinal Meningitis	1
Total	222

Respectfully submitted.

EDWARD FRANKEL, M. D., *Assistant Inspector.*

TWELFTH SANITARY INSPECTION DISTRICT.

ASSISTANT INSPECTOR, WM. E. HALL, M. D.

DISTRICT, *Bounded by Canal and East Houston streets; Bowery and Broadway.*

MOREAU MORRIS, M. D., *City Sanitary Inspector.*

SIR: I have the honor to submit the following annual report: This is essentially a tenement house district. Its western boundary is principally occupied by stores; its eastern boundary by stores upon the ground floor, the upper portions of most of the buildings being used for purposes of dwelling, some by single families, some boarding houses, but the majority by two or more families. The southern boundary is chiefly composed of stores, as also the lower portion of Centre street. Stores prevail to a limited number upon Grand and Broome streets, most of which, except those between Broadway and Crosby street, are occupied in the upper stories by two or more families. The balance of the district is almost entirely composed of tenement houses.

Tenement houses.—With few exceptions I have devoted my time to improving the condition of the tenement houses under my care, and I congratulate myself upon the fact that in many instances I notice a markedly improved sanitary condition; but I find, after six months given to their care, that nothing but the most diligent watching will prevent many of these buildings relapsing into their former filthy condition. When owners or agents, as the case may be, are aware of this surveillance, they take better care of their premises than they otherwise would do.

The worst tenement houses in my district are situated in Crosby, Baxter, Mulberry and the lower halves of Mott and Elizabeth streets. The houses in Centre Market Place are in a deplorable condition also. The tenement houses occupied by negroes and Italians in Crosby street, have, perhaps, needed as careful supervision as any others I have, and although in some cases I have made frequent complaints against the same premises, but little improvement, until lately, has been apparent.

To permanently better the condition of tenement houses, it does not, in my experience, suffice to make a complaint and have the existing nuisance remedied, as the cause still exists in the filthy habits of the tenement house occupants themselves. To recommend a remedy for this condition, would lead into a lengthy and useless discussion of the tenement house system; a system I believe to be wrong, the righting of which involves the solving of one of the most important social problems of the day. I can imagine no better method for fostering moral, social and intellectual degradation than our present *herding system.*

I consider the landlords, agents, or whomsoever the parties may be, having immediate charge of the premises, largely responsible for the bad sanitary condition thereof; a little care upon their part, and tenants would soon be brought to understand the necessity of cleanliness of person and surroundings. There are many tenement houses in my district which exemplify this fact.

If it were in our power, not only to compel removal of nuisances, but also prevent their reoccurrence, the usefulness of our labor would be vastly enhanced. I allude, of course, in my above remarks more particularly to cleanliness than other sanitary conditions. When buildings are in a bad sanitary condition from defective construction, radical measures for removing the same are under our control.

Ashes and Garbage.—One great source of annoyance in tenement house districts, is the removal of ashes and garbage, which daily accumulate in such large quantities. In the better class of houses, these are retained in the several rooms until the ash-man comes around, and then brought out to the ash-cart; the ash-man's visits, during the past six months, have been few and far between, and thus material accumulates in such quantities that the tenants are obliged to remove it from their rooms; there is only one other place for it, and into the street it goes. In some places upon Mott, Mulberry, Baxter and Elizabeth streets, the ashes and garbage heaps are several feet thick, awaiting the warm weather of spring to scatter putrid odors and disseminate disease. I have had ash and garbage boxes provided for a number of houses, and have experienced great difficulty in getting the order complied with; even were cans provided, as required by the Board of Health, they would, in some instances, remain weeks unemptied, so that one can for each tenant would scarcely suffice. These people are instructed by nothing better than example, and the condition of our streets sets a very poor one.

Below is a tabulated statement of *inspections*, *reinspections*, *complaints forwarded* and *contagious diseases visited*, since entering upon my duties.

SUMMARY.

INSPECTIONS.

Tenement houses	1029	Stables	44
Privies	806	Markets	18
Dwellings	343	Hotels	3
Stores	210	Vacant lots	3
Private dwellings	87	Distilleries	2
Factories	51	Schools	1
Boarding houses	47		
		Total	2644

REINSPECTIONS.

Tenement houses	70	Boarding houses	2
Privies	20	Hotels	1
Dwellings	16	Vacant lots	1
Stores	7		
		Total	117

COMPLAINTS.

Tenement houses	41	Boarding houses	2
Privies	16	Vacant lots	1
Dwellings	10	Hotels	1
Stores	2		
		Total	73

CONTAGIOUS DISEASES INSPECTED.

Small Pox	51	Scarlatina	4
Typhoid Fever	3	Measles	
Typhus Fever	1		
		Total	60

I am, very respectfully, your obedient servant,

WM. E. HALL, *Assistant Health Inspector.*

NEW YORK, *April* 1, 1872.

THIRTEENTH SANITARY INSPECTION DISTRICT.

INSPECTOR, FR. HEUEL M. D.

DISTRICT, *Bounded by Houston and East Fourteenth streets; Avenue A, and East River.*

MORREAU MORRIS, M. D., *City Sanitary Superintendent.*

SIR: I have the honor, herewith, to transmit my report concerning the sanitary condition of the District under my care for the year ending March 31st, 1872.

In a report of this kind originality can hardly be expected: day after day, and month after month the same round of inspections and complaints occupy the time of the Inspector, and his annual report can be but little more than a summing up of these, together with suggestions for the reform or abolition of certain evils, which the daily round of his duties shows him to be, in a great measure, the causes of the unhealthy conditions prevailing among the population of large cities.

In the performance of his duties the Inspector must needs observe the greatest vigilance, and must not relax his supervision even for a moment, if he does not want a relapse to the old state of affairs.

Though there exists now a far better disposition toward the Board of Health than formerly, yet in some instances the Inspector meets with rudeness, if not subjected to actual insult, from the very class of people whom the Board most benefits.

Topography of District.—This District is composed partly of "made" ground. It was formerly, at least the eastern portion, the site of marshes bordering upon the East River, which were drained in a measure, by numerous small water courses, which followed the general slope of the land, toward the river, but which have been cut off by the modern improvements. Thus they can no longer aid in draining this portion of the city. The average elevation of this District above low water mark, it must also be remembered, is from 11 to 13 feet at the highest or western, and only from 7 to 9 at the eastern or river side portion. From the above, we can readily understand why quite a large portion of this district is comparatively unhealthy. Its soil composed of refuse material, the want of a thorough system of drainage, dependent upon the conformation of the land—and as a result, cellars damp, if not often partially filled with water, the presence of a large tenement population, a great portion being of the poorest class, all render it an abode fit for fevers and contagious diseases.

Population.—The population of this District is composed chiefly, *i. e.*, four-fifths, of Germans, the remaining fifth being Irish—many of these pursue their daily calling within their dwellings—thus vitiating the air and rendering them less inhabitable.

Tenement Houses.—The houses in this District are almost entirely of the class tenement, private residences being the exception, and even many of the so-called private residences just escape being classed as tenements as they are inhabited by three families. The general character of these tenement houses is good. A great improvement in the condition of the tenants could be made if the houses were so constructed as to allow of a certain degree of privacy, so that each family could be responsible for the condition of their apartments and entrances.

In this connection the Inspector would call attention to the good results arising from the appointment of a housekeeper, who shall reside in and have charge of each tenement house. Where "everybody" is supposed to care for the general arrangement, cleanliness, repairs, etc., of the house, it but too often follows that nobody makes it his business, and thus all the dwellers suffer.

Streets and Pavements.—This District is one of the worst paved in the city. The paving of cobble stone, intrinsically bad, has been so neglected that in most of the streets there are deep holes in which filth and water accumulates, and in warm weather breed foul odors, if not pestilence. When we add to this, that the streets are seldom if ever cleaned and I doubt if they ever have been in as filthy a state as at present, we can readily understand what effect this condition of affairs must have upon the general public health. Until the present system of cleaning (?) the streets by contract is abolished, and the work placed under the direction and supervision of the Board of Health, I see no prospect of a change for the better.

Sewers, Water, etc.—This portion of the city is so little elevated above low water mark that at high tide the sewers are filled by the incoming water. During severe storms not only the cellars, but the yards and streets are flooded. This leads to contamination of the ground with the contents of privies and foul and damp cellars, and to miasmata. There is in this, as well as in other tenement districts, a deficient supply of water. In this connection I would strongly urge that all tenement houses be provided with baths—say one to every three or four families at least—in order that personal cleanliness may be observed. In the case of tenants tired out by the labors of the day, in many cases ignorant of the evils induced by filth, and led by the desire to enjoy the few hours which the interval between their daily tasks allows them, in complete rest, this inadequate supply of water has a strong tendency to render them careless of their persons, where attention to it is only secured at the expense of personal labor, and this I believe to be one of the chief causes of the filthy condition of their houses.

Privies, etc.—The great want in this direction is some form of vault not likely to get out of order and easily cleaned. Water-closets will not answer on account of the care necessary to keep them in order, and privies are objectionable since they cannot be kept clean. The "*school-sink*"—a narrow metal box, one extremity having a plug, which, when opened, allows its contents to flow into the sewer, and the other so arranged as to admit water for flushing—seems to me the best form of sink we at present possess. It will answer every condition, provided that it be made the duty of some one person to see that it is flushed properly every day or two.

Ashes, Garbage, etc.—The irregularity with which the refuse from tenement houses is collected—or, rather, the way in which the ashes, etc., are allowed to remain in and about the houses—is one of the chief causes of our dirty streets. Tenants, as a general rule, have some receptacle for such refuse, and many of the houses are provided with boxes or barrels to receive such material. The persons to whom the duty of collecting the garbage, etc., is entrusted, do not call with any regularity, sometimes not being seen in a street for three or four days, or even in a week. As a result the receptacles become filled to overflowing, and the streets present the appearance now seen, piled with heaps of garbage two or three feet high, which, under a spring sun, poison the atmosphere. The remedies for this evil are two: 1st, proper wooden, or better, metallic boxes for garbage, etc.; 2d, and most important, a thorough and regular system of removal, the barrel or receptacle being placed, not on the sidewalk, but in the area, and being returned there by the collector.

Basements and Cellars.—The basements and cellars are, as a rule, in this district, not inhabited.

Contagious Diseases.—During the past year there were 284 cases of small-pox, 20 cases of typhoid, 34 cases of scarlatina, and 1 case of cholera sporadica, inspected by me. A number of these, however, were in other districts.

Vaccinations.—In 202 houses there were performed 199 primaries and 965 revaccinations. Total, 1,164.

The majority of the population in this district is German. In Germany the custom is to be vaccinated about the month of May. They, therefore, object to be vaccinated or re-vaccinated at any other than such a time, and therefore we find small-pox prevalent among our German population. There also exists among them a deep-seated aversion to public hospitals, from a mistaken idea that the patients there do not receive such care and attention as they would at home, and they therefore strive to conceal such cases in order to avoid removal to the hospital. In this connection I would strongly advise that vaccination be made compulsory, and that thus the trifling inconveniences of a sore arm be substituted for the fearful scourge of small-pox, with its attendant train of evils.

SUMMARY.

The following is a statement of the inspections and reinspections made by me during the last year :

Tenement houses	3305
Private dwellings	304
Other dwellings	59
Cellars and basements	318
Public buildings	10
Stores and warehouses	20
Hide-curing establishments	1
Factories and workshops	98
Theatres	1
Fat-rendering establishments	6
Public places	2
Markets and market places	8
Stables	516
Smoke houses	1
Hospitals	2
Other buildings	18
Sidewalks	2
Privies	294
Railroad cars	46
Streets	141
Hydrants	6

The following complaints have been forwarded to the Board :

Tenement houses	1045
Private dwellings	45
Streets	51
Public buildings	2
Other dwellings	9
Cellars and basements	38
Fat-rendering establishments	1
Stores and warehouses	1
Hospital	1
Violation of Code (sec. 122)	6
Hydrants	5
Factories and workshops	1
Sidewalks	1
Privies	116
Stables	31

Respectfully submitted,

FRANZ E. M. HEUEL, M. D., *Health Inspector.*

FOURTEENTH SANITARY INSPECTION DISTRICT.

INSPECTOR, H. De W. JOY, M. D.

District, *Bounded by Fourteenth, Grand and Essex streets; Avenue A and First avenue, Bowery and Broadway.*

Moreau Morris, M. D., *City Sanitary Inspector.*

Sir: I have the honor to present the following report of inspectorial labor, in the District comprising portions of the 10th, 15th and 17th Wards, for a period of one year, viz: from April 1st, 1871, to April 1st, 1872.

Tenement Houses.—This class of dwellings extends from 2d avenue and 14th street east to avenue A, and south to Grand street. With the exception of 11th, 12th and 13th streets, between 1st and avenue A, the population is German. It is safe to state that one-third of this population change their habitations during the year and a new set present themselves.

The larger and better class of tenements are below 10th street. Many of these are capacious, well ventilated and drained.

In 11th street, from 2d avenue to avenue A, 12th and 13th streets, from 1st to avenue A, the buildings are old, badly ventilated and drained, and ill adapted for the numbers they contain. There is a row of (front and rear) tenements extending from 312 to 320 Mott street which should be torn down. There is only eight feet space between the front and rear buildings. This space, which is called a yard, is damp and necessarily filthy. No sun was ever known to shine upon the rear houses.

Owners, agents and lessees have at last appreciated the benefits arising from keeping their houses clean. It is the exception for an inspector to complain of un-whitewashed walls and ceilings or of dirty halls, so regularly and thoroughly is the cleansing performed.

Streets and Gutters.—As long as there are no more efficient methods of removing ashes and garbage, so long will the streets remain filthy.

Every house may have the most approved receptacles, but the conveyance for removing and emptying them must come at regular and stated intervals, else they overflow and fill the gutters and streets. In those portions of the city occupied by the better class, two men should accompany each cart, one to precede and give warning of their approach; the other to receive, empty and return the receptacle into the area of the dwelling.

The immense superiority of the Belgian over the cobble stone pavement, may be observed in the present condition of Forsyth and Ludlow streets, as compared to their condition one year ago. First avenue, 3d, 4th, 5th, 6th, 7th and 11th streets, are sadly in need of the same improvement. Two-thirds of the complaints about sunken gutters, have been made in streets where there are cobble stone pavements.

Privies and Water Closets.—The majority of the tenement houses have privies, with sewer connections. Many of the privies have only one sewer pipe connection, for two and even three houses. This is the frequent cause of sewer pipe obstructions. Every tenement house hereafter erected, should be required to have separate and independent sewer connection.

In some tenement houses water closets are found, but so far, have proved failures. The tenants will throw their ashes and garbage into them, thus obstructing the waste pipe and preventing the flow of the excrementitious matter into the street sewer.

Lard Rendering.—There are seven large pork-packing and lard-rendering establishments in this District. Two only have been complained of by the citizens in the immediate neighborhood. One was ordered to discontinue the lard rendering process; the other one the "Board" decided with propriety, to be in a condition no way detrimental to the public health.

Contagious Diseases.—The cases of typhoid and scarlet fever have been small in number, as compared to those of small-pox; and scarlet and typhoid fever have diminished in number as small-pox increased. The following number of cases of scarlet fever and typhoid fever have been visited by me during the year ending April 1st, 1872:

Scarlet fever	48
Typhoid fever	19

Small-Pox.—As will be seen by the following table, the largest number of cases occurred in this District during the month of June; and, from that time till November, the numbers decreased very markedly.

This was owing to the very thorough vaccination of the population. The disease has shown itself only among those who were not protected by vaccination.

Removal of Patients.—The difficulty of and the opposition of friends to, the removal of patients to the hospital, is being lessened daily. The majority of the cases have occurred in 11th street from avenue A to 2d avenue, 2d, 3d, 4th and 5th streets. In every one of these localities the contagion was spread either by careless isolation, or entire concealment of the case. The following table will show the number of cases of small-pox visited each month in the District:

1871.	April	31
"	May	32
"	June	49
"	July	18
"	Aug	23
"	Sept	2
"	Oct	3
"	Nov	11
"	Dec	32
1872.	Jan	35
"	Feb	18
"	March	30
	Total	284

Total number cases small-pox	284
" " " scarlet and typhoid	67
Total number cases contagious disease	351
Number of vaccinations and re-vaccinations	87

The following list shows the amount of work performed, dating from April 1st, 1871, to April 1st, 1872:

SUMMARY.

INSPECTIONS AND REINSPECTIONS.

Tenement houses	2089
Private dwellings	145
Privies and water closets	503
Stables	23
Lard rendering establishments	7
Cellars and basements	136
Factories	16
Stores and saloons	44
Total number inspections and reinspections	2963

Respectfully submitted,

H. D. JOY, M. D., *Health Inspector.*

FIFTEENTH SANITARY INSPECTION DISTRICT.

INSPECTOR, PHILIP O'HANLON, M. D.

DISTRICT, *Bounded by East Fourteenth, East Twenty-sixth streets; Sixth avenue and East River.*

MOREAU MORRIS, M. D., *City Sanitary Inspector.*

SIR: I have the honor to submit the following annual report of the duties performed by me:

The Sanitary condition of my district is not as good as for the corresponding time last year, for the reason that the streets have not been cleaned in the past five months, and hence an air of general slovenliness is imparted to the tenement house portion of the district.

Defective soil pipes are very general, and require a thorough overhauling. Very few houses are free from the escape of noxious vapors from the street sewers, owing to the imperfect joints in the soil pipes, and the careless manner in which house drains have been constructed. A decided improvement, in addition to proper pipes and drains, would be the carrying of the soil pipes to the roofs of the houses, so as to allow the sewer stench and gases to escape into the external air, at an altitude where they could be comparatively innocuous. There are several blocks of houses where there is *no direct* sewer connection; but where one drain in the rear of these blocks, which empties into the street sewer, is common to at least eight or nine houses. When any portion of this drain becomes obstructed, the whole block suffers, and therefore, I have recommended direct sewer connection wherever it is practicable. There are some instances, of course, where heretofore there was no street sewer in front of the houses, and where the mode complained of was the only one which the parties could have recourse to.

There is great need for good paving in many of the streets of my district. I have been complaining of this for nearly two years, but nothing has been done to remedy the trouble. It is idle to expect clean gutters or the absence of stagnant water, whilst the streets are allowed to remain in their present condition.

I do not know of any nuisance so general, and so much complained of, as that of heaping oyster shells on the sidewalks in front of oyster saloons, of which there are about one hundred in my district. That section of the Sanitary Code which appears to be intended to control this nuisance, is quite ineffectual, and some other action must be taken by the Health Department, before the persons causing this nuisance can be properly dealt with.

A great source of annoyance to citizens, and consequently a cause of repeated complaint, is the utter disregard of the law regulating the hours at which stable manure should be removed, and the practice of removing is kept up during the entire day.

There is no house in my district where the owner has not complied with the requirements of the tenement house law, with regard to ventilation, etc., but there must always be cause of complaint as to cleanliness, so long as there is no *responsible* housekeeper employed on the premises.

I respectfully suggest that the small number of cases of small pox occurring in the district, about half of which is a populous tenement house neighborhood, is due mainly to the fact that I have never allowed a case to remain in a tenement house; deeming "isolation" therein to be eminently impracticable.

SUMMARY.

The following is a resume of the duties performed:

INSPECTIONS AND REINSPECTIONS.

Tenement houses	1893	Stables	96
" (Reinspections)	447	Private dwellings	147
Cellars and basements	204	Other dwellings	54
Factories and workshops	36	Vacant lots	27
Markets	1	Gutters	136

REPORTS AND COMPLAINTS FORWARDED.

Tenement houses	583	Stables	13
Private dwellings	31	Smoke nuisances	16

CONTAGIOUS DISEASES VISITED AND DISPOSED OF.

Small pox	208	Scarlet fever	31
Typhoid fever	3		

Vaccinations—Primary, 40. Secondary, 168.

Respectfully submitted,

PHILIP O'HANLON, M. D., *Health Inspector.*

NEW YORK, *April* 1st, 1872.

SIXTEENTH SANITARY INSPECTION DISTRICT.

INSPECTOR CHARLES F. ROBERTS, M. D.

DISTRICT, *Bounded by Twenty sixth and Fortieth Streets ; Sixth Avenue and East River.*

MOREAU MORRIS, M. D., *City Sanitary Inspector.*

SIR : I have the honor to present the following report of my official labors in the Health Department during the year just closed.

The general facts with regard to drainage, sewerage, &c., have been so fully dilated upon in previous reports that it is not necessary here to repeat them.

Tenement Houses.—The most noticeable change, from a sanitary stand-point, which has occurred in this district during the last twelve months, is the construction, in the northeastern portion of the district, of a large number of second-class tenement houses which have been run up with remarkable rapidity ; and have entirely converted this portion of the district from one occupied by stables, vacant lots, and a few tenement houses, to exactly the reverse.

These improvements have had the effect of changing the district, or rather the eastern portion of it, more to that of a tenement house district than formerly ; but as a rule the tenements of the entire district are in very good sanitary condition and a complaint requiring a structural change for the improvement of the ventilation is now rarely called for.

I would again call attention to the lack of "housekeepers," or "local superintendents" in this class of houses. This, to my mind, is more conducive to the cleanly condition of these dwellings than any means which can be employed ; and, in my experience, an improved sanitary condition is markedly noticeable in those houses where such a person is engaged.

Street Pavements.—With but few exceptions (the most noticeable of which is First avenue between 26th and 35th streets), the street paving of the district is in good sanitary condition ; but the lack of thorough cleaning by the street cleaning contractor, shows its prejudical effects here as well as in the other portions of the city.

SUMMARY.

The following is a tabular statement of the inspections and reinspections performed by me during the year ending March 31st, 1872 :

Tenement houses	2050
Private dwellings	280
Other dwellings	58
Factories and workshops	60
Stores and warehouses	33
Public buildings	2
Stables	247
Cellars and basements	7
Yards and areas	4
Privies	89
Sewers	22
Sidewalks	65
Streets and gutters	23
Vacant lots	32
Steamships	1
Total	2973

CASES OF CONTAGIOUS DISEASES VISITED.

Small pox	251
Chicken pox	22
Scarlet fever	8
Typhoid fever	3
Measles	1
Total	285

The complaints forwarded to the Board for orders were as follows:

Tenement houses	246
Private dwellings	42
Other dwellings	13
Public buildings	2
Factories and workshops	12
Stores and warehouses	1
Stables	79
Cellars and basements	20
Privies	107
Sewers	52
Yards and areas	29
Roof leaders	3
Vacant lots	20
Sidewalks	61
Streets and gutters	10
Total	697

All of which is respectfully submitted,

CHAS. F. ROBERTS, M. D., *Health Inspector.*

New York, April 1st, 1872.

SEVENTEENTH SANITARY INSPECTION DISTRICT.

ASSISTANT INSPECTOR, HENRY T. STRONG, M. D.

District, *Bounded by* 59*th street*; *Sixth avenue*; 40*th street*; *East River.*

Moreau Morris, M. D., *City Sanitary Inspector.*

Sir:—I have the honor to present the following report: On June 15th, 1871, I was assigned to duty in the Seventeenth Sanitary District.

Tenement Houses.—The tenement houses in the district are in a fair sanitary condition, well ventilated, and usually kept clean. The order of the Board that the tenement houses should be supplied with proper receptacles for garbage and ashes, has not as yet been universally complied with.

Privies.—In my opinion more care should be taken in having the privy vaults properly flushed with water, and during the months of July and August they should be disinfected every week.

Streets and Paving.—With the exception of 46th and 47th streets, east of Third avenue, all the streets in the district have been kept quite clean. The paving of 44th, 45th and 47th streets, east of First avenue, has added much to the sanitary condition of the slaughter houses adjoining.

Sewerage.—The sewerage of the district is good. Owing to the falling in of the dock at the foot of 46th street and East River, the sewer in that street was for several weeks obstructed, but that in due time was repaired, and all nuisance arising from it was abated.

Stables.—A marked improvement has taken place in the district in regard to the stables. The orders of the Board for manure vaults and boxes have been quickly and well complied with, so that now they are in a good sanitary condition.

Dumping Ground.—The manure on the dumping ground, between 45th and 47th streets and East River, is kept so constantly stirred up that it always emits a vile stench, which is poisonous to the atmosphere, and which calls for some speedy and effectual remedy.

Slaughter Houses.—There are twenty-one in my district, situated as follows: One in 49th street, between First and Second avenues; two in 45th street, between Second and Third avenues; and the rest are on and east of First avenue, between 43d and 47th streets. The yards where the cattle stand are paved, and connected with the street sewers, so that they can be washed and cleaned. The floors are nearly all of board, and, on the yard side, have gutters through which Croton water is always running while slaughtering is going on. The floors are so graded that all the water poured on them runs to these gutters, which are connected with the street sewers. The offal is generally thrown into vaults, from which it is taken daily. The fat is put into barrels, and is also removed daily. The drainage of all the slaughter houses is good. They all have, and should be obliged to have, at least one man whose sole duty is to keep the slaughter house clean. I do not consider that a proper amount of care is exercised in the removal of offal. Immediately after killing, and whenever there has been a great amount of slaughtering in any slaughter house, offal and feet remain lying on the floors and in the yards longer than necessary. The vaults into which the offal is thrown are not as large or as accessible as it seems to me they should be. The best disinfectant for a slaughter house is pure water, which should be freely used while slaughtering is going on. The barrels containing the fat should always be disinfected on being emptied, both in cold and warm weather. Slaughtering, in my opinion, should always be done on the ground floor; cellars are damp and dark, and hard to be kept clean, and slaughtering above the ground floor is objectionable, because the drainage is not as good, and there are no vaults or proper places in which to throw the offal. All the slaughter houses should be white-washed twice a year, and oftener if needed. I have examined and reported on all of these slaughter houses every week since the middle of July last. The Butcher's Hide and Melting Association, on the north side of 44th street, east of First avenue, is the largest and best constructed slaughter house in the district.

Contagious Diseases.—Although small-pox has prevailed in an epidemic form, this district, considering its population, has been as free from it as any in the city. I do not believe the proximity to this district of the small-pox hospital on Blackwell's Island has tended to spread the disease. Small-pox broke out in the Roman Catholic Orphan Asylum, on Fifth avenue, between 51st and 52d streets, and twenty-one cases were removed to the hospital. The prompt and thorough vaccination of the inmates of the institution prevented further ravages of this disease. Twenty of the twenty-one who had small-pox were vaccinated when infants, but I could find only very indistinct scars on their arms. They were all revaccinated two weeks before they were taken sick, but the vaccinations were not successful.

SUMMARY

Of inspections, reinspections and complaints made by me from June 15th, 1871, to April 1st, 1872.

INSPECTIONS.

Tenement houses	2124	**Stables**	88
Other dwellings	246	**Slaughter houses**	760
Private dwellings	11	**Other buildings**	2
Cellars and basements	24	**Privies**	8
Shanties	155	**Sunken and vacant lots**	21
Public buildings	16	**Cars and stages**	108
Factories	37	**Street gutters**	82
Yards	54	**Streets**	26
Breweries	2		
Markets	2	**Total**	3766

REINSPECTIONS AND REPORTS.

Tenement houses	132	Slaughter houses	38
Other dwellings	29	Other buildings	4
Private dwellings	14	Privies	150
Cellars and basements	32	Sunken and vacant lots	8
Shanties	7	Cars and stages	5
Factories	1	Street gutters	15
Yards	17		
Stables	56	Total	508

COMPLAINTS.

Tenement houses	73	Stables	30
Other dwellings	13	Privies	144
Private dwellings	4	Sunken and vacant lots	5
Cellars and basements	24	Street gutters	38
Shanties	2		
Factories	3	Total	348
Yards	12		

CONTAGIOUS DISEASES.

Small-pox	147
Scarlatina	8
Vaccinations	106
Cerebro-spinal meningitis	1

Respectfully submitted,

HENRY T. STRONG, M. D., *Assistant Health Inspector.*

NEW YORK, *April 1st*, 1872.

EIGHTEENTH SANITARY INSPECTION DISTRICT.

INSPECTOR, AUGUSTUS VIELE, M. D.

DISTRICT, *Bounded by Fifth Avenue and East River; 59th and 110th Streets.*

MORREAU MORRIS, M. D., *City Sanitary Inspector.*

SIR: I have the honor of submitting the usual annual report of the sanitary condition of the 18th Inspection District, and the duties and labors performed by me as Health Inspector, from April 1st, 1871, to April 1st, 1872.

The *Topography* is somewhat peculiar, it being a series of elevated ridges and deep valleys; the beds of "old water courses" and the overflow of tidal water upon the depressed and easterly portions.

One of these ridges, extending from 66th to 74th streets, might with propriety be designated the "Lennox" ridge, and is destined, in a few years, to form one of the most attractive and desirable portions of the city, with streets and avenues graded on a level with the formation of the soil, no filling or excavation having been required; which together with the location within its limits of so large a number of Institutions devoted to Science, Art, Literature, and Benevolence, render it worthy of especial note—and, in a sanitary point of view, it will compare most favorably, if not excel, any portion of the island.

Between 74th and 76th streets we find a deep valley, the source and bed of original water courses and springs, which have heretofore been entirely neglected and unprovided for in the formation of streets and avenues, and the construction of sewers. As an instance of this neglect, I may cite the sewer in 74th street; while it is 21½ feet below the curb at 5th avenue, it crosses 2d avenue 14 feet below the curb, and this is an (outlet) sewer extending to the East River.

Sub-Soil Drainage.—It is gratifying to be enabled to record the recent great and permanent sanitary improvement of a large portion of this District by the construction of "sub-soil drains" through and along the original beds of these "water courses," which had become obstructed until the accumulation of stagnant water had become a great and formidable evil.

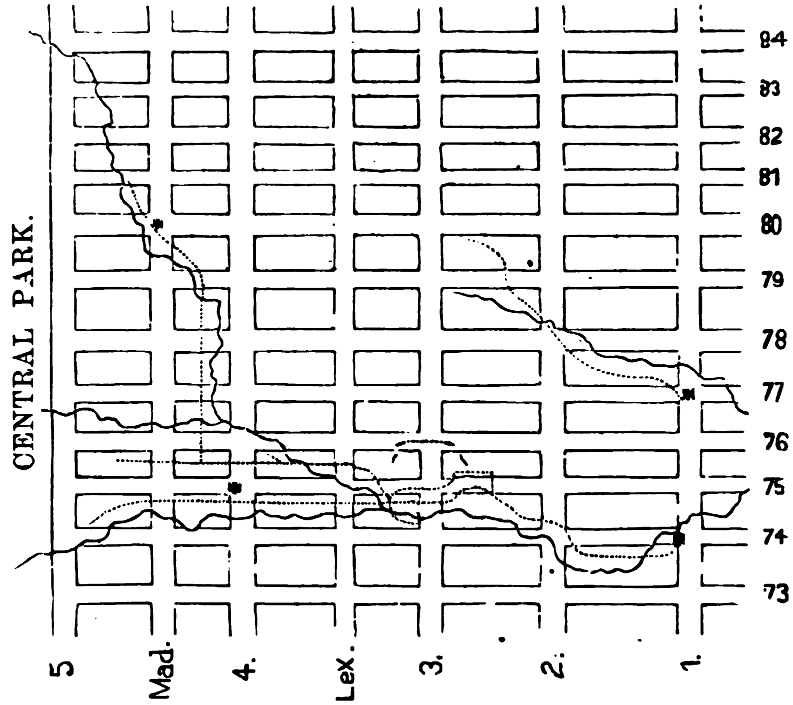
Within the past year, the Health Department, by a wise provision of law, have been enabled and authorized to certify to the Department of Public Works, the sanitary necessity for the opening and constructing of deep drains to convey the accumulation of these streams, and their never-ceasing supply, to tide water.

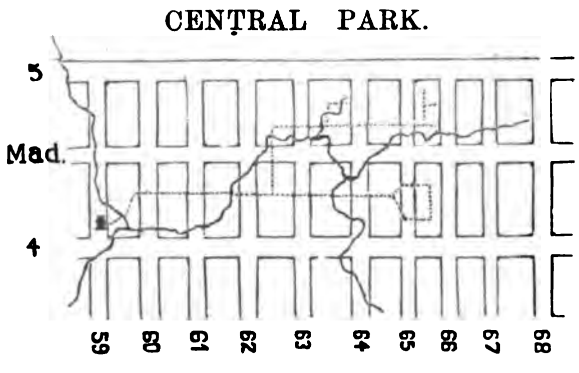
In accordance with the recommendation of the Health Department there has been constructed by the Department of Public Works "a deep sub-soil drain" from 1st to 5th avenues, commencing south side of 74th street, coursing along the bed of the stream, crossing 2d avenue underneath the avenue sewer—from south-east to north-west corner of 74th street and 2d avenue—diagonally across the square to 75th street, where the original bed of the stream had been obstructed by the erection of buildings, necessarily requiring the drain to be constructed up and through 75th street underneath the sewer, with a lateral branch across to 76th street to receive the discharge of an old culvert under 3d avenue at 76th street; passing up 75th street it crosses 3d avenue 10 feet below the sewer in the avenue, continuing up to Lexington avenue, with lateral branches to receive the supply and outlet of 3 streams, one having its origin at 80th street, west of Madison avenue, the others coming from 5th avenue and passing under Madison and 4th avenues. All these streams will now be properly provided for and permanently protected, which will prove of incalculable value to this otherwise doomed section. It can be safely said that no more important and necessary sanitary work has been accomplished. Without this deep drainage, whole squares would ever remain centres for malarious poisons and infections.

There are other natural streams coursing through this District needing attention and requiring drainage, which have also been certified as sanitary necessities, and an improvement in the construction of street sewers has been inaugurated by the Department of Public Works, by the construction of spurs from the main sewer to the curb line of the street, thus avoiding the necessity of tearing up the pavement and opening the street when sewer connection is required to be made with the dwellings. Many private dwellings have been connected with the sewer in streets where sewers did not exist until within the past year—contributing largely to the improved sanitary condition of the District, which I trust will receive proper care within the present season.

It may be proper in this connection to refer to the construction of an outlet sewer in 110th street, extending from the East River to the Eighth avenue, with an additional extension up Fifth avenue to 180th street, thus draining a large section hitherto almost uninhabitable on account of malarious infection, owing in a great measure to the inadequate means of drainage.

A large number of streets requiring sewerage, have, within the past year, had sewers constructed through them. In very many instances this was done at the suggestion of the Health Department as a sanitary necessity.





DESCRIPTION.

The *old Water Courses* are designated by the solid black lines, passing across the blocks, &c.
The *Sub-Drains* are designated by the dotted lines.
The black *Crosses* designate the points at which the drains discharge into the street-sewers.

Garbage and Ashes.—The subject of the proper removal and permanent disposition of garbage and ashes is one of no inconsiderable importance, and necessarily demands some attention and suggestions as to the best methods of providing for its accomplishment in a manner least annoying to the public generally and with due regard to the public health.

The present system appears very defective in one great feature, and is the cause of much, if not all, of the evil which now exists, viz.: filthy streets and obstructed gutters. I would refer more particularly to the irregularity of the carts in their traversing the streets for the collection of garbage and ashes. At present it is customary to appear one day earlier, before all the vessels containing garbage and ashes are placed upon the walk; the next day, they pass the same street at a late hour, consequently only a part is collected; the remainder is apt to be thrown in the gutter to decompose and generate filth, until the time for street cleaning arrives, when, perchance, it may be removed and the obstructed gutters be relieved. Observation has too vividly impressed me with the fact that the "ashman's shovel" is seldom used. To obviate this evil I think a systematic course could be adopted by the contractor by so arranging the carts and men that they shall daily pass through certain specified streets at certain specified hours, and the inhabitants would soon learn the hours and accommodate themselves by placing all vessels containing garbage and ashes upon the sidewalk in time for the approach of the carts, and before the appointed hour. There appears to be no system. No bell of warning to announce the approach of the "ashman."

It is not an unusual occurrence to see barrels of garbage and ashes exposed to the rays of a scorching sun all day. This evil could of course be obviated if a systematic and regular route was established by the contractor; but so long as the convenience and caprice of ashmen is allowed to dictate where and when they shall go, so long dirty streets and filthy gutters will predominate, and the good public enjoy the noxious and offensive exhalations thrown off from these stagnant pools.

Tidal Lands.—While the subject of the proper disposition of garbage and ashes is not within nor under the control of the Health Department, still it is incumbent upon me to allude to it, from the fact that so large a quantity has been deposited within the past year upon the "tidal lands" of the district, over which I have the sanitary supervision. This tidal section extends from 92d to 100th streets, east of Third avenue. A large proportion of these lands, east of Second avenue, from 95th to 99th streets, have been filled above tide water with garbage and ashes; and was the subject of annoyance and complaint by the inhabitants of the Twelfth Ward, living in the immediate vicinity.

As the Health Department could not prohibit the filling of this section of (useless and unavailable) land, a thorough daily disinfection of the grounds and of the cargoes as discharged from the boats, "with carbolate of lime," was ordered. The execution of this required daily supervision. The carbolate was prepared upon the grounds by the slacking of lime with crude carbolic acid. The result was very satisfactory, and was a sanitary necessity; and it may be added, in this connection, that "carbolate of lime" proves to be one of the best and most effective deodorizers and disinfectants for large masses of decomposing vegetable and animal matter. Having been prepared daily and used freely, it corrected and abated a great nuisance.

It is a lamentable fact to record that 104th street, from the East River to Fifth avenue, 86th and 89th streets, from East River to Second avenue, have been graded and filled with ashes and garbage. No more pernicious material for the filling of streets can be found, especially where the streets are so often opened for sewers, water and gas connection and repairs.

Experience has taught us that the exhalations from the never-ceasing decomposition of this material will continue to percolate and gain the surface for *years* after the original deposit had been made, particularly when made in low, sunken and damp localites. In this advanced stage of sanitary science, it occurs to me that this practice of filling streets with decomposing material should be strictly prohibited. As guardians of the public health, and the future hygienic prosperity and sanitary condition of this city, we should earnestly protest against the depositing of this noxious and offensive material in any of the streets or vacant lots.

Tenement Houses.—Little can be said in regard to the condition of this class of buildings in this district, as they are nearly all of recent construction, and erected in accordance with the provisions of the Tenement House law. There are very few "rear" houses in the district; consequently, not so crowded together as in the down-town districts, rendering them more airy and comfortable. And, in other respects, they may be considered as in a good sanitary conditon, well ventilated and cleanly.

Private Dwellings.—It is not customary to make a general house-to-house inspection of private dwellings; they only come under observation by inspections made upon citizens' complaints. I am, however, of the opinion that much evil arises from defective and imperfect sewer and soil pipe connection, and from the accumulation of filth and rubbish in the cellars of very many of our seemingly best constructed dwellings. Cellars are seldom visited by the "good man" of the house; consequently he knows but little of the causes and origin of the diseases which affect his family. An inspection of his cellar would soon reveal causes sufficient for fevers, diarrhœas and dysentery. The too common practice of very many housekeepers of making the cellar the receptacle for all useless and broken furniture, old barrels, boxes, together with debris of all kinds, is a pernicious one. I know of no more potent generator of poison to the atmosphere of a house than decayed wood in a damp and confined cellar, unless it be the escape of gases from a defective soil pipe. Too little attention is paid to this very important subject. Cellars should be cleaned and whitewashed twice in the year, and all debris removed therefrom; soil pipes carefully examined and thoroughly repaired, if we expect to have our dwellings in a proper sanitary condition.

SUMMARY.

The following table exhibits the number of inspections and reinspections made and reported, and complaints forwarded, during the year.

INSPECTIONS AND REINSPECTIONS.

Tenement houses	619	Streets and gutters	78
Private dwellings	507	Yards	58
Other dwellings	57	Privies and water-closets	533
Cellars and basements	560	Sunken and vacant lots	221
Public buildings	31	Horse cars	150
Stores and warehouses	87	Drains and sewers	39
Factories and workshops	68	Dumping grounds	65
Fat-rendering establishments	37		
Slaughter houses	27	Total	3328
Stables	191		

REPORTS AND COMPLAINTS.

Tenement houses	67	Yards	5
Private dwellings	95	Privies and water-closets	118
Other dwellings	11	Sunken and vacant lots	95
Cellars and basements	23	Drains and sewers	22
Factories and workshops	18		
Stables	37	Total	511
Streets and gutters	20		

CONTAGIOUS DISEASES.

Small-pox	193
Scarlatina	43
Typhoid fever	5
Vaccinations performed	197

Respectfully submitted,

AUG. VIELE, M. D., *Health Inspector*.

NEW YORK, *April 1st*, 1872.

NINETEENTH SANITARY INSPECTION DISTRICT.

ASSISTANT INSPECTOR, ROGER S. TRACY, M. D.

DISTRICT, *Bounded by One Hundred and Tenth street, Sixth avenue and Harlem River.*

MOREAU MORRIS, M. D., *City Sanitary Inspector.*

SIR: I have the honor to submit the following report upon the Sanitary condition of the District under my care:

The Sanitary condition of this portion of New York has been mainly very good, the chief cause of insalubrity being the malarial influences, which prevail in the spring and autumn, to a greater or less degree, over the whole of Harlem. Experience has demonstrated that the poison of malaria diminishes in intensity, as the city is built up, so that in the more densely populated portions of the island, diseases directly attributable to it have almost disappeared. It is probable that this source of disease will not be entirely eradicated in Harlem for many years to come, but much may be done toward its extinction by well managed drainage and filling up of sunken lots, and this duty, therefore, has been my chief occupation during the past summer and autumn. I have the following report to make with regard to

Vacant and Sunken Lots.—The lowest portion of Harlem lies along the Harlem River, stretching back nearly to Fourth avenue, before there is any considerable rise in the level, and this is the portion, therefore, which is least easily drained, and the most productive of malarial poison. The worst portion of this District is on both sides of First avenue, up to about 125th street, and here my endeavors have been mostly concentrated. The filling and draining of lots is a more difficult matter than would at first appear—first, on account of the difficulty of finding the name of the owner, and second, on account of the delay experienced in forcing the execution of an order of the Board of Health involving so great an expense. The only works of this kind accomplished during the past year, of any magnitude, were the following: the filling up to a depth varying from two to four feet, of twenty-three sunken lots on the easterly side of First avenue, between 121st and 122d streets, and the draining of large ponds of water, covering about eleven lots on the westerly side of First avenue, between 115th and 116th streets, and seven lots on the south westerly corner of Fourth avenue and 119th street, respectively. These tracts of sunken land have long been a subject of complaint among the inhabitants of the immediate vicinity, but it was only after some months that I was enabled to obtain the names of the owners, and then, only after several vexatious delays, that the work was finally accomplished. The difficulty of finding the owner's name is in some cases very great, and hardly appreciable by one who has not had some experience of it. It seems to me a matter of importance, that the Board of Health should have the power, when it is impossible to obtain the owner's name, to fill or drain sunken lots, so as to remove unsanitary conditions, at the city's expense, making the cost of the proceeding a lien upon the property.

Streets.—The larger portion of the streets in Harlem are unpaved, and therefore not included in the street-cleaning contract. As a natural consequence, many of them, during the summer, are in a very filthy condition, which cannot, apparently, be remedied, so long as they remain unpaved.

Tenement Houses.—These are for the most part in very good condition, having been built, the greater portion of them, in accordance with the provisions of the Tenement House Act. There is a tendency, however, to dispense with the receptacle for ashes and garbage, required by the law, and the street gutters and adjacent vacant lots are often covered with heaps of ashes and decaying animal and vegetable matter. A portion of the latter is disposed of by the goats and geese of the vicinity, but enough is left to give rise in warm weather, to odors, which, it would seem, can not fail to prejudice the health of those living in the neighborhood. It is an easy matter to enforce the law with regard to boxes, but often very difficult to get filthy lots cleaned, for the reasons mentioned above with regard to vacant lots.

Contagious Diseases.—These diseases are never very prevalent in Harlem, and the epidemic of small-pox has visited this section of the city very lightly. The sparseness of the population renders isolation of the patient much oftener possible than in the more crowded portions of the city, and very few have been removed from their homes. Notwithstanding this, in not a single instance, so far as I could learn, has the disease been contracted within the limits of my district, but always outside.

Stables.—These are, for the most part, kept in good condition. The only exceptions are the cow stables, the filthy condition of which is, I believe, an unavoidable consequence of the nature of the animals kept in them.

The people generally seem to appreciate the efforts of the Health officers, and their labors are, in very rare instances, looked upon with disfavor.

SUMMARY.

The following is a report of the labor performed by me during the period extending from April 11th, 1871, to April 8th, 1872.

INSPECTIONS.

Tenement houses	1662	Stables	352
Private dwellings	195	Shanties	70
Other dwellings	52	Privies	95
Cellars and basements	94	Sunken and vacant lots	1158
Public buildings	4	Street cars	64
Stores and warehouses	15	Streets	45
Factories and workshops	27	Cess pools	3
Distilleries	1		
Markets	7	Total	3844

COMPLAINTS.

Sidewalks	1	Alleys	5
Streets	1	Yards	10
Tenement houses	31	Privies	33
Private dwellings	17	Vacant lots	23
Shanties	2	Stables	29
Cellars and basements	16		
Hydrants	2	Total	170

CONTAGIOUS DISEASES VISITED.

	No. Cases.	No. Visits.
Variola	23	43
Varioloid	32	48
Varicella	4	4
Scarlatina	1	1
Rubeola	1	1
Total	61	97

The following *vaccinations* were performed by me during the period mentioned. No. of families visited, 9; Primary, 11; Secondary, 26; and one school in which I vaccinated 71 children.

All of which is respectfully submitted,

ROGER S. TRACY, M. D., *Assistant Health Inspector.*

REPORT OF ASSISTANT CHEMIST.

H. ENDEMANN, PH. D.

NEW YORK, April, 1872.

M. MORRIS, M. D., *City Sanitary Inspector.*

SIR: I herewith have the honor of presenting my annual report for the year ending March 31st, 1872. It comprises a statement of the chemical investigations made; the methods of disinfection which have been in use, and the amount of work performed during the year by the Disinfecting Corps.

DISINFECTANTS EXAMINED.

I. *Quicklime.*—A series of samples of Quicklime were examined at the beginning of the summer of 1871, previous to the commencement of street-gutter-disinfection. Based upon this examination, a suitable sample was selected, and arrangements made for a uniform supply throughout the Summer.

II. *Carbolate of Lime.*—A sample, containing about 50 per cent. of lime was submitted for examination June 27th, 1871. The carbolic acid used for its manufacture was, however, of too inferior a quality, and the price of the material comparatively too high, to allow of its being used.

III. *Carbolic Powder of the American Sanitary Association in Boston.*—This substance was sent for examination in the middle of November. It is merely a mixture of clay with an inferior carbolic acid and dead oil. It prevents decomposition and fermentation only to a very limited extent, and belongs, therefore, to the class of disinfectants which do not destroy the source of contagion, but merely mask the bad odor originating from decomposing animal matter by reason of its own stronger and more perceptible odor.

IV. *Chloride of Aluminum*, manufactured by Ehrhard & Alexander, of No. 4 Cedar street. This substance is presented in solution, of a specific gravity 1.15; it contains about 21 per cent. of anhydrous chloride of aluminum, and, besides that, considerable chloride of calcium, the whole amount of solid constituents being about 28 per cent. Theoretically, it was expected that this disinfectant, in contact with putrid animal matter, would develop sulphuretted hydrogen. A number of experiments plainly showed that this was the case, and for this reason, a thorough disinfection cannot be expected from this substance.

V. *Bromo-chloralum*, manufactured by Tilden & Co., 176 William street, New York. The specific gravity of this disinfectant, which also is offered in solution, was found to be 1.148. The whole amount of solid constituents is about 27.5 per cent. It contains 18.5 per cent. of aluminic chloride; besides this, lime and considerable alkaline salts. The bromine which it contains is combined and not free, and, as we know only of the disinfecting qualities of *free* bromine, but nothing of it when combined with alkalies, and, as also the experiments made with it do not show any superiority over the chloride of aluminum, which was patented in England, a determination of this substance was deemed unnecessary. The reasons which caused us to abstain from the use of the chloride of aluminum are applicable in the case of Bromo-chloralum.

VI. *The Girondin Disinfectant*, is a solution of a light blue color, and of a specific gravity of 1.25. It contains about 29.7 per cent. of solid constituents and is mostly composed of sulphate of zinc, of which substance it contains about 25 per cent. The oxide of copper (0.67 per cent.) is combined with other acids, mainly acetic acid. The metallic substances of which the Girondin fluid is composed, make it a valuable disinfectant, not only as preventing further fermentation and decomposition, but as neutralizing the sulphuretted hydrogen. Experiments sustained this view. The results of our practical experiment showed that a disinfection could be performed but not a complete deodorization be obtained; an acid smell will always be perceptible, no matter how much of the disinfectant is used.

VII. *Waste Solution of the Telegraph Batteries of the Western Union Telegraph Company.*—Samples of these solutions were taken and tested. They were, however, too acid for useful disinfectants, without further and costly preparation.

VIII. *Waste Solution from the Fire and Police Telegraph Offices.*—These offices work with the so-called Meidinger battery. The waste solution consists of a saturated solution of sulphate of zinc, with a small percentage of sulphate of copper and free sulphuric acid. The addition of a small quantity of lime, or acetate of lime, converts this solution into a very valuable disinfectant.

IX. *Sulphurine.*—This is a water solution of sulphurous acid, of which it contains 7.77 per cent. The substance might be used as a disinfectant but for its exceedingly high price.

X. *Metallic Solution of Z. de Wessely*, of Greenpoint, L. I. This solution is supplied of a strength = 1.30; it contains variable quantities of chloride of zinc and iron. It is a waste solution, and can be supplied at the exceedingly low figure of 10 cents per gallon, and can be used without further preparation. The metallic nature of its constituents insure its usefulness as a disinfectant.

DISINFECTION OF STREET GUTTERS.

The disinfection of street-gutters was performed by either using lime slacked to powder, or by Girondin fluid. The powder of lime is thrown on the foul spots of gutters by carrying a shovel filled with it over them with a slightly shaking motion. The gutters may thus be uniformly covered with lime. The Girondin was applied diluted with water in the proportion 1 to 10, and is distributed by means of hand sprinklers. The work of using the latter disinfectant is by far easier than the distribution of lime, and with it I have therefore invariably been able to cover more ground in the same time, applying the same amount of labor. During the summer of 1871, 185 streets or portions thereof were disinfected. The work was continued for fifty days, and, during this time, 284 miles of street, or 468 miles of gutter, were disinfected with lime or Girondin fluid. The following is a list of streets which have been disinfected, either in whole or in part:

Albany st.,
Allen st.,
Attorney st.,
Avenues A., B., C., D.,
Frankfort st.,
Franklin st.,
Front st.,
Fulton Market,
Robinson st.,
Rose st.,
Roosevelt st.,
Rutgers st.,

Bank st.,
Barclay st.,
Barrow st.,
Batavia st.,
Battery Place,
Baxter st.,
Bayard st.,
Beach st.,
Beekman st.,
Bethune st.,
Broome st.,
Canal st.,
Cannon st.,
Carlisle st.,
Catharine Market,
Catharine st.,
Cedar st.,
Centre Market,
Centre st.,
Chambers st.,
Charles st.,
Charlton st.,
Cherry st.,
Christie st.,
Christopher st.,
City Hall Place,
Clarkson st.,
Cliff st.,
Clinton st.,
Columbia st.,
Courtlandt st.,
Crosby st.,
Delancey st.,
Desbrosses st.,
Division st.,
Dominick st ,
Dover st.,
Doyer st.,
Drydock st.,
Duane st.,
E. Houston st.,
E. 10th st.,
E. 11th st.,
E. 12th st.,
E. 13th st.,
E. 15th st.,
E. 17th st.,
E. 18th st.,
Eighth st.,
Eldridge st.,
Eleventh ave.,
Elizabeth st.,
Essex st.,
Fifth st.,
First ave.,
Fulton st.,
Gansevoort st.,
Goerck st.,
Gouverneur st.,
Grand st.,
Greene st.,
Greenwich st.,
Hague st.,
Hamilton st.,
Hammersley st.,
Hammond st.,
Harrison st.,
Hester st.,
Horatio st.,
Hubert st.,
Hudson st.,
James st.,
Jane st.,
Jay st.,
Jefferson st.,
Jersey st.,
King st.,
Laight st.,
Lawrence st.,
Leonard st.,
Leroy st.,
Lewis st.,
Liberty st.,
Ludlow st.,
Madison st.,
Mangin st.,
Market st.,
Mercer st.,
Montgomery st.,
Mott st.,
Morris st.,
Morton st.,
Mulberry st.,
Murray st.,
Ninth st.,
Ninth ave.,
Norfolk st.,
North Moore st.,
Oak st.,
Oliver st.,
Orchard st.,
Park st.,
Pearl st.,
Pelham st.,
Pell st.,
Perry st.,
Pike st.,
Pitt st.,
Prince st.,
Reade st.,
Scammel st.,
Second st.,
Seventh st.,
Sheriff st.,
Sixth st.,
South st.,
South Fifth ave.,
Spring st.,
Spring st. Market,
Stanton st.,
St. John's Lane,
Suffolk st.,
Sullivan st.,
Tenth ave.,
Thames st.,
Third st.,
Thompson st.,
Thomas st.,
Tompkins st.,
Troy st.,
Vandewater st.,
Vandam st.,
Vesey st.,
Vestry st.,
York st.,
Walker st.,
Warren st.,
Washington st.,
Washington Market,
Water st.,
Watts st.,
West st.,
White st.,
Willett st.,
Wooster st.,
West Broadway,
West Houston st.,
W. 13th st.,
W. 15th st.,
W. 16th st.,
W. 17th st.,
W. 18th st.,
W. 19th st.,
W. 20th st.,
W. 24th st.,
W. 25th st.,
W. 26th st.,
W. 27th st.,
W. 28th st.,
W. 29th st.,
W. 30th st.,
W. 32d st.,
W. 33rd st.,
W 37th st.,
W. 38th st.,

First st.,
Fourth st.,
Forsyth st.,
Rector st.,
Ridge st.,
Rivington st.,
W. 39th st.,
W. 40th st.,
W. 53d st.,
W. 54th st.,

DISINFECTION OF HOUSES INFECTED WITH CONTAGIOUS DISEASES.

The methods and application of disinfectants for this branch of my sanitary service have not been changed, and are now performed in the same manner as described in my previous annual reports. The amount of work performed is contained in the following tabulated statement.

TABULATED STATEMENT OF WORK PERFORMED BY THE DISINFECTING CORPS. IN HOUSES INFECTED BY CONTAGIOUS DISEASES.

	Relapsing Fever.	Typhoid Fever.	Typhus.	Yellow Fever.	Small Pox.	Diphtheria, Measles, Scarlatina.	Whole Number of Visits.	Partial Disinfection.	Fumigation.	Disinfecting Clothing.	Disinfect. Privies.	Cases erroneously Reported.	Disinfect. Bodies.	Bodies removed to the Morgue.	Patients removed to the Hospital.
April, 1871...	4	13	2	..	329	79	422	126	277	391	282	14	..	..	186
May	2	11	5	..	282	80	381	118	239	358	249	13	..	..	176
June	..	7	4	..	287	60	358	105	233	342	236	6	..	..	108
July......	3	3	3	..	218	28	255	64	177	241	239	7	28	3	120
August	1	12	10	3	140	48	214	79	117	175	122	8	14	5	77
September ..	3	19	4	..	61	22	111	51	51	102	107	3	3	..	41
October.....	..	27	10	..	54	58	151	102	43	145	145	4	8	2	37
November...	1	14	1	..	133	66	215	98	97	195	195	12	10	3	72
December...	1	2	2	..	240	29	274	77	184	261	261	7	30	16	142
	Cereb	..	..	..	...	..	...	...	...	...	..	..	..	..	...
January, 1872	Spin	..	..	..	351	3	354	70	263	333	333	14	30	5	197
	Menin	..	..	..	...	..	...	...	...	...	...	..	..	..	...
February....	4	..	..	..	309	1	314	53	242	295	294	11	51	5	188
March......	..	..	..	..	400	1	401	65	331	396	392	4	48	10	239
TOTAL....	19	108	41	3	2804	475	3450	1008	2204	3234	2855	103	222	49	1583

Respectfully submitted,

H. ENDEMANN, PH. D., *Asst. Chemist.*

"B."

REPORT ON VITAL STATISTICS.

Bureau of Records of Vital Statistics,
March 15, 1872.

Col. Emmons Clark, *Secretary of the Board of Health.*

Sir: I have the honor to submit the following report upon the Vital Statistics of the year 1871.

That portion which relates to Marriages and Births and to the general operations of the Bureau, will be, as in the previous year, more particularly discussed by Dr. Nagle, the Deputy Register; while my attention will be occupied chiefly with the consideration of the mortality of the year. It seems proper, however, to refer briefly to a few prominent facts in connection with the Marriage and Birth Registration of the past year. We notice a slight increase over 1870 in the number of marriages returned, but so insignificant a one as to afford little reason for satisfaction. There are certainly a large number of conscientious clergymen who implicitly fulfill their duty in this particular; but, on the other hand, there are almost as many more who, while inculcating obedience to the ordinances of God, deliberately violate and defy a most important law of the commonwealth.

With regard to our returns of births, the record is much more full and satisfactory. Nearly 21,000 births were registered during the twelve months, an increase of 6,300 over the previous year, although even this increased figure is probably less by at least 10,000 than the number which actually occurred.* Our sincere acknowledgements are due to those physicians and midwives who have so well responded to the requirements of the law. We may congratulate ourselves upon this fact, and trust that the increased interest displayed in this branch of our statistics will constantly augment, until our community shall cease to bear the unmerited odium of degeneracy, which has so long attached to it from the imperfect registration of its infants. To those physicians (and unfortunately there are many) who fail to appreciate the importance of a correct birth-registration, we may be allowed to suggest, that in the accomplishment of the obligation which this law devolves upon them, they are not only securing the interests of their patients, but are also advancing the usefulness of their own profession in supplying particulars which, when massed into statistics, become of acknowledged importance to medical science. The disparity between the sexes born at different periods—the average number of women bearing twins, triplets, &c.; the proportion of offspring from native and foreign progenitors; the ages and occupations of parents; the average number of children produced at different periods of male and female life and in different seasons; the influence upon reproduction of the relative ages of parents—these and other kindred questions are not merely interesting to the political philosopher, but they peculiarly concern the medical man, and the source of their solution lies only in the largest possible accumulation of facts.

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*The birth rate in London during 1871, was equal to 34.5 per thousand inhabitants. The same rate in New York would have given 33,000 births.

Moreover, the actual number of births taking place annually in a given community is indispensable, in conjunction with other factors, for computing the progressive increment of population during years intervening between those of official enumerations, and consequently for the determination of the true death-rate. The wonderful precision with which such increase may be approximated is shown by the London tables. According to them the estimated population of that city on April 2d, 1871, was 3,247,631; while the decennial census taken upon the same night gave a population of 3,251,804,—a difference of only about 4,000 in three and a quarter millions—one almost inappreciable in statistical computation.

In contradistinction to the imperfect record of marriages and births in this city, the accuracy of our mortuary statistics, which depends so materially upon the completeness of death certificates, no less than upon our rigid system of interments, now leaves little to be desired. We may cite as an example the deaths from dropsy, which, although merely symptomatic of a variety of distinct diseases, was but recently the only cause assigned in a very large number of cases. In 1869 there were 230 deaths attributed to this indefinite cause—in 1870 (owing to our efforts in the latter part of the year to ascertain the real disease in every case) but 116, while during the past year there were only nine cases in which we failed to register the primary affection, such as Heart Disease, Bright's Disease, Cirrhosis of the Liver, &c. Medical attendants of all classes are becoming so particular in making out certificates of death that a request for additional information is rarely necessary. Thus, during the first three months of 1871, there were referred back to physicians 283 certificates for rectification—while during the last three months of the year but 107 were found to need revision.

We may take this occasion also to return our thanks to the Coroners and their Deputies for the completeness which has characterized their certificates of death during the past year in response to our representations of former defects. The comprehensive table of deaths from violent causes which accompanies the present report is unparalleled for the minuteness and significance of its details. A proper circumstancial history of this class of deaths is, as Dr. Farr remarks, of the highest importance in a political point of view, as it has a direct bearing upon the most valuable and efficient portion of the population.

FIRST OR WINTER QUARTER OF 1871—THIRTEEN WEEKS ENDING APRIL 1ST

During this period there were registered 1,799 Marriages and 5,325 Births—being 232 less marriages and 1,475 more births than for the corresponding quarter of 1870. The deaths amounted to 6,682—an excess of 105 over the winter quarter of 1870.

Meteorological.—The mean temperature of January was 29.99° Fahr., being less by 6.90° than that of the corresponding month during the past ten years. Rain or snow fell upon twelve days of the month to the amount of 4.77 inches against 5.03 inches in January 1870. The mean reading of the barometer was 30.098 in. and the mean degree of humidity 61.93 (saturation being represented by 100.)

The mean temperature of February was 32.88°, being less by 2.29° than that of the corresponding month during the past ten years. Rain or snow fell upon ten days of the month to the amount of 5.38 inches against 4.47 inches in February, 1870. The mean reading of the barometer was 29.946 in. and the mean degree of humidity 59.30.

The mean temperature of March was 44.48° being 6.46° higher than that of the corresponding month during the past ten years. Rain or snow fell upon sixteen days to the amount of 5 inches against 4.17 inches in March, 1870. The mean reading of the barometer was 29.887 in. and the mean degree of humidity 57.41.

The mean temperature of the quarter was 35.78°, being 1.36° higher than that of the winter quarter of 1870, and .91° lower than that of the corresponding period during the past ten years. Rain or snow fell upon 42 days to the amount of 15.15 inches against 13.67 inches in the winter quarter of 1870. The maximum temperature was 63° on March 10th and 19th, and the minimum temperature 2° on February 5th and 6th. The hightest reading of the barometer was 30.623 in. on January 25th—its lowest reading 29.185 in. on February 18th, and its mean reading 29.977 in. The highest degree of humidity was 88.73 on January 15th, its lowest degree 18.80 on March 25th, and its mean degree 59.55.

Thunder and lightning occurred on March 12th. On January 6th there was an eclipse of the moon.

TABLE No. I.

DEATHS IN THE CITY OF NEW YORK FROM ALL CAUSES,

In Quinquennial Periods, during the Thirteen Weeks ending Saturday, April 1st. 1871,

Months.	Nativity.				Colored.		Under One Year.	
	Un. States.		Foreign.					
	M.	F.	M.	F.	M.	F.	M.	F.
January	700	604	374	345	5	19	297	213
February	669	548	379	351	12	13	257	195
March	922	767	498	465	30	21	356	289
Total	2 291	1,919	1,251	1,161	47	53	910	697
Percentage of deaths in each period of life on total mortality of quarter	34.60	28.98	18.89	17.53	.71	.80	13.74	10.52
Total of both sexes	4,210		2,412		100		1,607	
Percentage of both sexes on total mortality of quarter	63.58		36.42		1.51		24.26	

TABLE No. I.—*Continued.*

Months.	35		40		45		50		55	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
January	55	54	42	41	54	47	41	31	41	33
February	67	44	60	44	45	40	33	38	27	23
March	78	68	76	55	65	50	64	33	49	33
Total	200	166	178	140	164	137	138	102	117	89
Percentage of deaths in each period of life on total mortality of quarter	3.02	2.51	2.69	2.11	2.48	2.07	2.08	1.54	1.77	1.34
Total of both sexes	366		318		301		240		206	
Percentage of both sexes on total mortality of quarter	5.53		4.80		4.55		3.62		3.11	

TABLE No. I.—*Continued.*

DEATHS IN THE CITY OF NEW YORK FROM ALL CAUSES,

In Quinquennial Periods, during the Thirteen Weeks ending Saturday, April 1st, 1871.

1		2		3		4		Total under 5 Yrs.		5		10		15		20		25		30	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
121	99	70	58	24	32	20	18	532	420	30	32	10	10	17	26	36	44	53	47	56	56
99	87	67	41	30	34	18	26	480	383	42	32	10	12	24	17	34	45	62	71	48	51
109	102	86	70	57	44	27	28	635	533	45	55	30	21	28	33	75	61	78	78	75	65
329	288	223	169	120	110	65	72	1647	1336	117	119	50	43	69	76	145	150	193	196	179	172
4.97	4.35	3.37	2.55	1.81	1.66	.98	1.09	24.87	20.17	1.77	1.80	.76	.65	1.04	1.15	2.19	2.27	2.91	2.96	2.70	2.59
617		392		230		137		2,983		236		93		145		295		389		351	
9.32		5.92		3.47		2.07		45.04		3.57		1.41		2.19		4.46		5.87		5.29	

TABLE No. I.—*Continued.*

60		65		70		75		80		85		90		95		100 and upwards		Total by Sexes.		Total both Sexes.
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	..
30	32	26	20	23	19	12	14	9	11	5	7	2	4	..	..	..	1	1,074	949	2,023
32	23	31	25	24	22	14	12	8	13	3	2	3	2	1	..	..	..	1,048	899	1,947
30	37	40	29	28	38	10	16	7	12	4	7	2	5	..	1	1	2	1,420	1,232	2,652
92	92	97	74	75	79	36	42	24	36	12	16	7	11	1	1	1	3	3,542	3,080	6,622
1.39	1.39	1.47	1.12	1.13	1.19	.54	.63	.36	.54	.18	.24	.11	.17	.01	.01	.01	.05	53.49	46.51	100.00
184		171		154		78		60		28		18		2		4		6,622		
2.78		2.59		2.32		1.17		.90		.42		.28		.03		.06		100.00		

TABLE No. II.

DEATHS REGISTERED EACH WEEK, BY CLASSES,

For the First Quarter ending April 1st, 1871.

Classes.	Weeks.													Total each Class.
	1	2	3	4	5	6	7	8	9	10	11	12	13	
	January 1 to January 7.	January 7 to January 14.	January 14 to January 21.	January 21 to January 28.	January 28 to February 4.	February 4 to February 11.	February 11 to February 18.	February 18 to February 25.	February 25 to March 4.	March 4 to March 11.	March 11 to March 18.	March 18 to March 25.	March 25 to April 1.	
Zymotic	124	131	126	110	120	111	110	116	148	130	121	124	135	1,606
Constitutional ..	124	128	134	131	124	122	127	129	138	135	108	136	135	1,671
Local	195	212	188	206	176	209	227	175	203	192	217	218	229	2,647
Developmental..	24	37	40	42	34	33	32	33	30	43	34	46	29	457
Violence	29	12	14	16	16	22	13	18	18	15	26	19	23	241
Total	496	520	502	505	470	497	509	471	537	515	506	543	551	6,622

Mortality of the Winter Quarter.—The deaths during this quarter exhibited an increase of 673 upon the previous three months, and an excess of 105 over the corresponding period of 1870. Small-pox, which in the latter portion of 1870 had occasioned but few deaths, began in the early part of January to evince new and extraordinary vigor; 208 persons fell victims to it within the quarter. Measles also was particularly fatal, destroying 241 lives. The mortality of Croup, Diphtheria, and Whooping Cough, presented no unusual features. Typhus fever caused but 12 deaths and Typhoid but 47. Diarrhœal diseases were somewhat more prevalent than ordinarily at this season; 54 deaths were due to Erysipelas, of which 34 were in infants under a year old. Phthisis Pulmonalis was remarkably fatal, producing 1,195 deaths against 974 in the winter quarter of 1870. In the week ending March 4th, it carried off no less than 101 victims—twenty per cent. of the weekly mortality. The deaths from the local respiratory affections were slightly in excess of the corresponding quarter of the previous year.

TABLE No. III.—DEATHS FROM ZYMOTIC DISEASES.

NEW YORK.—Deaths from Small-pox, Measles, Scarlatina, Diphtheria, Croup, Whooping-Cough, Typhus Fever, Typhoid Fever, Diarrhœal Maladies, and other Zymotic Diseases, during the Thirteen Weeks ending Saturday, April 1st, 1871.

Wards.	Small-pox.	Measles.	Scarlatina.	Diphtheria.	Croup.	Whooping-Cough	Typhus Fever.	Typhoid Fev'r	Diarrhœal Diseases.	Other Zymotic Diseases.	Total Deaths from Zymotic Diseases.	Total Deaths from all causes.	Perc'tage of Zymotic Deaths on Total Mortality.	Total Population (in Wards), Census of 1870.	Death Rate per 1,000 Annually of the Population from Zymotic causes.	Death Rate per 1,000 Annually of the Population from all causes.	Remarks.
First	1	2	2	..	4	..	..	1	3	4	17	98	17.35	14,463	4.70	27.09	Castle Garden and Emigrant Depot, 2.
Second	..	..	..	..	..	..	..	..	..	..	..	5	..	1,312	..	15.24	
Third	..	..	..	..	1	..	..	..	..	2	3	17	17.65	3,715	3.26	18.30	
Fourth	..	4	4	4	7	2	1	1	2	6	31	154	20.13	23,748	5.22	25.94	Fourth Precinct Station, 3.
Fifth	..	..	4	2	3	1	..	..	2	4	16	99	17.17	17,150	3.73	23.09	
Sixth	..	4	10	1	9	1	..	..	7	8	40	198	20.20	21,153	7.56	37.44	City Prison, 7; Reception Hospital, 21.
Seventh	1	4	8	10	7	5	..	4	3	7	49	250	19.60	44,818	4.37	22.31	Seventh Precinct Station, 1.
Eighth	2	10	8	2	5	1	..	1	6	8	43	233	18.45	34,913	4.92	26.69	
Ninth	3	20	26	3	7	1	1	5	9	11	86	312	27.56	47,609	7.22	26.21	St. Vincent's Hosp., 34; Jefferson Market Pris., 1.
Tenth	2	13	14	6	1	8	..	..	7	17	68	268	25.37	41,431	6.56	25.87	
Eleventh	1	19	22	10	6	3	2	3	7	12	85	433	19.63	64,230	5.29	26.97	St. Francis' Hospital, 25; Strangers' Hospital, 3; Eleventh Precinct Station, 2.
Twelfth	6	19	10	3	7	4	3	5	30	24	111	351	31.77	47,497	9.35	29.56	Leak & Watts' Asylum, 1; Sheltering Arms, 1; House of Mercy, 2; House of Good Shepherd, 2; House of Refuge, 1; Infants' Hospital, 74; Randall's Island, 6; Ward's Island, 61; Bloomingdale Lunatic Asylum, 7; Deaf and Dumb Asylum, 1; Soldiers' Retreat, 8; Colored Orphan Asylum, 2; New York Juvenile Asylum, 1.
Thirteenth	..	7	11	1	7	1	..	1	7	9	44	202	21.78	33,364	5.28	24.22	
Fourteenth	..	6	5	..	8	3	..	1	2	9	34	167	20.18	26,436	5.14	25.27	Lying-in Hospital, 1.
Fifteenth	2	10	2	2	..	..	..	..	79	34	129	283	45.58	27,587	18.70	41.03	Foundling Hospital, 149.
Sixteenth	1	17	20	3	6	2	1	1	5	9	65	232	28.02	48,359	5.37	19.19	Sixteenth Precinct Station, 1.
Seventeenth	6	24	30	13	9	4	1	4	14	20	125	574	21.78	95,365	5.24	24.07	
Eighteenth	6	20	19	6	6	1	..	2	6	11	77	332	23.19	59,593	5.17	22.28	
Nineteenth	159	8	34	9	11	3	3	9	33	35	300	966	31.99	86,090	14.36	44.88	St. Joseph's Industrial School, 1; Presbyterian Home, 1; Woman's Hospital, 1; Fever Hospital, 16; German Hospital, 29; Workhouse, 11; City Lunatic Asylum, 39; Almshouse, 27; Penitentiary, 1; Small-pox, 139; Charity Hospital, 168; Epileptic and Paralytic Hospital, 5; Colored Home Hospital, 30; Nursery and Child's Hospital, 25; St. Luke's Hospital, 35; R. C. Orphan Asylum, 1; Shepherd's Fold, 2.
Twentieth	2	17	21	6	8	8	..	2	10	21	93	484	19.63	75,407	5.04	25.67	Mount Sinai Hospital, 7; Institution for the Blind, 1; Twentieth Precinct Station, 1.
Twenty-first	13	15	4	2	4	3	..	3	12	23	79	540	14.63	56,703	5.57	38.09	Bellevue Hospital, 266; Morgue, 10; Home of the Friendless, 4.
Twenty-second	3	22	20	6	17	3	..	4	6	19	100	424	23.58	71,349	5.60	23.77	Ladies' Union Aid Institution, 2.
Totals	208	241	274	89	133	54	12	47	253	293	1606	6,622	24.25	942,292	6.81	28.11	Total in Institutions, 1,229, exclusive of 10 found in Morgue.

TABLE No. IV.

DEATHS IN THE CITY OF NEW YORK FROM ALL CAUSES,

In Quinquennial Periods, during the Thirteen Weeks ending Saturday, July 1st, 1871.

Months.	Nativity.				Colored.		Under One Year.	
	Un. States.		Foreign.					
	M.	F.	M.	F.	M.	F.	M.	F.
April	644	603	440	370	24	15	267	228
May	673	592	418	323	18	20	277	248
June	940	812	419	387	39	26	494	438
Total	2.257	2,007	1,277	1,080	81	61	1,038	914
Percentage of deaths in each period of life on total mortality of quarter	34.09	30.31	19.29	16.31	1.22	.92	15.68	13.80
Total of both sexes	4,264		2,357		142		1,952	
Percentage of both sexes on total mortality of quarter	64.40		35.60		2.14		29.48	

TABLE No. IV.—*Continued.*

Months.	35		40		45		50		55	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
April	80	54	55	45	66	37	41	41	39	24
May	62	41	51	38	58	31	44	32	29	27
June	63	47	51	45	54	24	49	27	41	22
Total	205	142	157	128	178	92	134	100	109	73
Percentage of deaths in each period of life on total mortality of quarter	3.10	2.14	2.37	1.93	2.69	1.39	2.02	1.51	1.65	1.10
Total of both sexes	347		285		270		234		182	
Percentage of both sexes on total mortality of quarter	5.24		4.30		4.08		3.53		2.75	

TABLE No. IV.—*Continued.*

DEATHS IN THE CITY OF NEW YORK FROM ALL CAUSES,

In Quinquennial Periods, during the Thirteen Weeks ending Saturday, July 1st, 1871.

1		2		3		4		Total under 5 Yrs.		5		10		15		20		25		30	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
90	76	45	61	21	25	15	20	438	410	42	43	17	17	29	31	50	45	63	71	59	46
90	69	48	37	28	35	18	18	461	407	54	28	19	15	32	26	37	36	62	71	67	52
128	107	49	41	18	27	17	19	706	632	41	44	16	20	27	31	48	67	85	78	66	50
308	252	142	139	67	87	50	57	1605	1449	137	115	52	52	88	88	135	148	210	220	192	148
4.65	3.81	2.15	2.10	1.01	1.31	.75	.86	24.24	21.88	2.07	1.74	.78	.78	1.33	1.33	2.04	2.24	3.17	3.32	2.90	2.24
560		281		154		107		3,054		252		104		176		283		430		340	
8.46		4.25		2.32		1.61		46.12		3.81		1.56		2.66		4.28		6.49		5.14	

TABLE No. IV.—*Continued.*

60		65		70		75		80		85		90		95		100 and upwards		Total by Sexes.		Total both Sexes.
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	..
41	19	27	23	19	27	10	15	5	11	3	11	..	1	..	..	..	2	1,084	973	2,057
27	31	30	24	33	19	14	16	8	11	2	5	1	1	..	3	..	1	1,091	915	2,006
33	22	36	25	16	33	13	13	10	9	3	8	1	..	..	1	..	1	1,359	1,199	2,558
101	72	93	72	68	79	37	44	23	31	8	24	2	2	..	4	..	4	3,534	3,087	6,621
1.53	1.09	1.40	1.09	1.03	1.19	.56	.66	.35	.47	.12	.36	.03	.03	..	.06	..	.06	53.38	46.62	100.00
173		165		147		81		54		32		4		4		4		6,621		
2.62		2.49		2.22		1.22		.82		.48		.06		.06		.06		100.00		

SECOND OR SPRING QUARTER OF 1871—THIRTEEN WEEKS ENDING JULY 1ST.

During this quarter there were registered 2,233 marriages and 4,271 births—being 217 more marriages and 1,032 more births than for the corresponding period of 1870. The deaths amounted to 6,621—an excess of 328 over the Spring quarter of 1870.

Meteorology.

The mean temperature of April was 53.99°, being higher by 3.81° than that of the corresponding month during the past ten years. Rain or snow fell upon 14 days to the amount of 3.45 inches against 6.10 inches in April, 1870. The mean reading of the barometer was 29.778 inches, and the mean degree of humidity, 50.46.

The mean temperature of May was 61.84°, beng higher by 2.43° than that of the corresponding month during the past ten years. Rain fell upon seven days to the amount of 4.90 inches against 3.08 inches in May, 1870. The mean reading of the barometer was 29.766 inches, and the mean degree of humidity, 47.69.

The mean temperature of June was 69.34°, being .66° lower than that of the corresponding month during the past ten years. Rain fell upon 9 days to the amount of 8.02 inches against 2.85 inches in June, 1870. The mean reading of the barometer was 29.817 inches, and the mean degree of humidity 59.58.

The mean temperature of the quarter was 61.72°, being 1.25° lower than that of the spring quarter of 1870, and 1.68° higher than that of the corresponding period during the past ten years. The maximum temperature was 89° on May 30th, and the minimum temperature 35° on April 5th. Rain or snow fell upon 30 days to the amount of 16.37 inches against 12.03 inches in the Spring quarter of 1870. The greatest reading of the barometer was 30.368 inches on April 24th, its least reading 29.397 inches on April 2nd, and its mean reading 29.787 inches. The greatest degree of humidity was 84.83 on May 5th, the least degree 25.53 on May 8th, and mean degree 52.57. Thunder showers occurred on April 11th and 21st, May 16th and 31st, and June 4th, 7th, 15th, 24th and 28th. A slight shock of earthquake was noticed on June 18th, at 9.50 P. M. The Aurora Borealis appeared on April 13th and 17th.

TABLE No. V.

DEATHS REGISTERED EACH WEEK, BY CLASSES,

For the Second Quarter ending July 1st, 1871.

Classes.	Weeks.													Total each Class.
	1	2	3	4	5	6	7	8	9	10	11	12	13	
	April 1 to April 8.	April 8 to April 15.	April 15 to April 22.	April 22 to April 29.	April 29 to May 6.	May 6 to May 13.	May 13 to May 20.	May 20 to May 27.	May 27 to June 3.	June 3 to June 10.	June 10 to June 17.	June 17 to June 24.	June 24 to July 1.	
Zymotic	129	128	144	117	128	114	123	143	147	144	158	194	301	1,970
Constitutional ..	127	122	130	125	119	119	112	99	118	98	93	116	128	1,506
Local	230	208	189	182	188	216	187	191	210	151	139	131	136	2,358
Developmental..	31	38	40	31	47	40	39	47	31	24	35	38	31	472
Violence..... ..	25	19	21	21	20	16	30	28	33	23	32	24	23	315
Total	542	515	524	476	502	505	491	508	539	440	457	503	619	6,621

Mortality.

The deaths during this quarter were less by one than during the previous quarter, and were in excess by 328 over the Spring quarter of 1870. This mortality was exceptionally high, exceeding by 556 deaths that of any corresponding quarter for ten years previous to 1870. Small-pox became a severe epidemic, and destroyed 304 lives during the quarter—a greater number than in the whole of any single year back to 1865. Measles and Scarlatina, although evidently declining, carried off 106 and 196 persons, respectively. Whooping Cough began to increase in fatality, its victims amounting to 65. Typhus and Typhoid Fevers were not very prevalent, causing severally but 21 and 39 deaths. 35 deaths were due to Remittent Fever, and 23 to Intermittent. Diarrhœal maladies were credited with 746 deaths, a very excessive number for the season—greater by 122 than that of the preceding Spring, which itself had been remarkably unhealthful in this respect. This early tendency, however, to the spread of diarrhœal complaints, did not, as we shall perceive, extend during the Summer to nearly so great a degree as in the previous year. Phthisis Pulmonalis continued unusually fatal, causing 1,006 deaths, against 905 in the Spring of 1870.

TABLE No. VI.—DEATHS FROM ZYMOTIC DISEASES.

NEW YORK.—DEATHS FROM SMALL-POX, MEASLES, SCARLATINA, DIPHTHERIA, CROUP, WHOOPING-COUGH, TYPHUS FEVER, TYPHOID FEVER, DIARRHŒAL MALADIES, AND OTHER ZYMOTIC DISEASES, DURING THE THIRTEEN WEEKS ENDING SATURDAY, JULY 1ST, 1871.

WARDS.	Small-pox.	Measles.	Scarlatina.	Diphtheria.	Croup.	Whooping-Cough	Typhus Fever.	Typhoid Fev'r	Diarrhœal Diseases.	Other Zymotic Diseases.	Total Deaths from Zymotic Diseases.	Total Deaths from all causes.	Perc'tage of Zymotic Deaths on Total Mortality.	Total Population (in Wards) Census of 1870.	Death Rate per 1,000 Annually of the Population from Zymotic causes.	Death Rate per 1,000 Annually of the Population from all causes.	REMARKS.
First	..	2	..	..	2	1	..	1	3	10	19	98	19.39	14,463	5.25	27.10	Castle Garden and E. Depot, 2; First Prec. Sta., 1.
Second	..	..	..	..	..	1	..	..	..	..	1	7	14.28	1,312	3.05	21.34	
Third	..	1	..	..	..	1	..	..	..	..	2	14	14.28	3,715	2.15	15.07	
Fourth	3	1	1	3	3	1	..	..	8	11	31	159	19.49	23,748	5.22	26.82	Fourth Precinct Station, 1.
Fifth	3	5	4	3	5	2	..	..	8	2	32	125	25.60	17,150	7.46	34.98	Fifth Precinct Station, 1.
Sixth	4	4	7	2	7	2	..	..	23	19	68	222	30.63	21,153	12.86	41.98	City Pris., 7; Reception Hos., 35; Sixth Prec. St., 1.
Seventh	..	..	12	3	5	4	1	1	23	8	57	251	22.71	41,818	5.09	22.40	
Eighth	6	9	5	1	8	3	..	2	16	17	62	251	24.70	34,913	7.10	28.76	Eighth Precinct Station, 1.
Ninth	4	2	3	1	3	2	2	2	22	14	55	246	22.36	47,609	4.62	20.67	St. Vincent's Hospital, 25; Jefferson Market Prison, 1; Twenty-eighth Precinct Station, 3.
Tenth	5	3	7	1	8	8	..	..	25	15	72	224	32.14	41,431	6.95	21.62	
Eleventh	2	5	6	4	10	3	..	..	53	18	101	407	24.81	64,230	6.29	25.34	St. Francis' Hospital, 28; Strangers' Hospital, 5.
Twelfth	2	6	14	4	6	1	6	10	63	44	156	392	39.79	47,497	13.14	33.01	Deaf and Dumb Asylum, 4; St. Joseph's Home, 2. Shepherd's Fold, 2; Colored Orphan Asylum, 2; House of Good Shepherd, 5; Ward's Island, 62; Randall's Island, 3; Bloomingdale Lunatic Asylum, 7; Infants' Hosp., 75; Soldiers' Retreat, 4; House of Refuge, 1; Convent of Sacred Heart, 1.
Thirteenth	3	2	5	4	3	1	1	2	28	12	61	201	30.34	33,364	7.31	24.09	Thirteenth Precinct Station, 1.
Fourteenth	..	2	5	2	1	2	1	1	15	7	36	175	20.57	23,436	5.44	26.48	Fourteenth Precinct Station, 3.
Fifteenth	3	2	2	2	1	2	..	..	126	26	164	305	33.77	27,587	23.78	44.22	Foundling Hospital, 219; Fifteenth Prec. Stat., 1.
Sixteenth	1	2	12	2	4	1	..	1	16	12	51	235	21.70	48,359	4.22	19.44	Samaritan Home, 1; Theological Seminary, 1; Sixteenth Precinct Station, 1.
Seventeenth	13	4	22	6	10	10	4	2	78	10	159	510	31.18	95,365	6.67	21.39	
Eighteenth	4	8	13	2	6	1	..	2	37	9	82	311	26.36	59,593	5.54	20.87	Home for Respectable and Indigent Women, 1.
Nineteenth	224	26	21	3	6	6	5	5	82	41	419	1,071	39.12	86,090	19.47	49.76	Inebriate Asylum, 1; Hahnemann's Hospital, 1; R. C. Orphan Asylum, 1; Presbyterian Home, 2; Home for Ruptured and Crippled, 3; City Lunatic Asylum, 37; Almshouse, 27; Small-pox, 223; Charity Hospital, 166; Epileptic and Paralytic Hospital, 9; Colored Home Hosp., 49; Nursery and Child's Hospital, 40; St. Luke's Hosp., 30; German Hospital, 29; Workhouse, 6; Fever Hospital, 9; Women's Hospital, 4.
Twentieth	9	3	24	2	13	10	..	4	48	21	134	453	29.58	75,407	7.11	24.03	Mount Sinai Hospital, 13; St. Vincent de Paul's, 1; St. Mary's Hospital, 1.
Twenty-first	6	9	6	1	4	3	..	4	20	29	82	565	14.51	56,703	5.78	39.85	Bellevue Hospital, 299; Morgue, 6; Home of the Friendless, 4.
Twenty-second	12	10	27	3	5	..	1	2	52	14	126	390	31.58	71,349	7.06	22.37	Ladies' Un. Aid Ins., 1; Twenty-second Pre. Sta., 2.
Totals	304	106	196	49	105	65	21	39	746	330	1,970	6,621	29.77	942,292	8.36	28.16	Total in Institutions, 1,465, exclusive of 6 found in Morgue.

THIRD OR SUMMER QUARTER OF 1871—THIRTEEN WEEKS ENDING SEPT. 30.

During this quarter there were registered 2,135 marriages, and 5,423 births—being 379 more marriages and 1,875 more births than for the corresponding period of 1870. The deaths amounted to 7,833, or 583 less than during the Summer quarter of the previous year.

Meteorology.

The mean temperature of July was 73.57°, being 4.35° less than that of 1870, and 2.95° less than that of the corresponding month during the past ten years. Rain fell upon 15 days of the month to the amount of 6.26 inches against 4.80 inches in July, 1870. The mean reading of the barometer was 29.828 inches, and mean degree of humidity, 63.69.

The mean temperature of August was 75.23°, being 2° less than that of August, 1870, and .24° higher than that of the corresponding month during the past ten years. Rain fell upon 12 days to the amount of 6.41 inches against 3.68 inches in August, 1870. The mean reading of the barometer was 29.855 inches, and the mean degree of humidity, 65.45.

The mean temperature of September was 62.38°, being 4.19° less than that of the corresponding month during the past ten years. Rain fell upon 5 days of the month to the amount of 1.85 inches, against 2.38 inches in September, 1870. The mean reading of the barometer was 30,013 inches, and the mean degree of humidity, 57.63.

The mean temperature of the quarter was 70.39°, being 4.30° less than that of the Summer quarter of 1870, and 2.30° less than that of the corresponding quarter during the past ten years. The maximum temperature in the shade was 91.5 on July 12th, and in the sun, 118.7° on July 7th. The minimum temperature was 44° on September 20th and 21st. Rain fell upon 32 days of the quarter to the amount of 14.52 inches, against 10.86 inches in the Summer quarter of 1870. The highest reading of the barometer was 30.372 inches on Sept 22nd, its lowest reading 29.509 inches on August 30th, and its mean reading 29.898 inches. The highest degree of humidity was 85.06 on August 29th, the lowest degree 32.46 on August 19th, and the mean 62.26. Thunder showers occurred on July 3rd, 6th, 9th, 11th, 15th, 16th, 21st, 27th, 28th and 31st, August 4th, 5th, 12th, 16th, 23rd and 25th, and on September 26th. A fine Aurora Borealis was visible on September 7th.

TABLE No. VII.

DEATHS IN THE CITY OF NEW YORK FROM ALL CAUSES,

IN QUINQUENNIAL PERIODS, DURING THE THIRTEEN WEEKS ENDING SATURDAY, SEPT. 30TH, 1871.

MONTHS.	NATIVITY.				Colored.		Under One Year.	
	Un. States.		Foreign.					
	M.	F.	M.	F.	M.	F.	M.	F.
July	1,074	956	427	316	20	19	645	576
August	857	759	450	325	10	9	469	396
September	946	852	471	400	21	23	452	465
Total	2,877	2,567	1,348	1,041	51	51	1,566	1,437
Percentage of deaths in each period of life on total mortality of quarter	36.73	32.77	17.21	13.29	.65	.65	19.99	18.35
Total of both sexes	5,444		2,389		102		3,003	
Percentage of both sexes on total mortality of quarter	69.50		30.50		1.30		38.34	

TABLE No. VII.—*Continued.*

MONTHS.	35		40		45		50		55	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
July	63	44	55	37	46	34	25	28	34	28
August	72	38	46	34	59	41	58	26	35	20
September	71	62	68	60	59	30	64	38	32	20
Total	206	144	169	131	166	105	147	92	101	68
Percentage of deaths in each period of life on total mortality of quarter	2.63	1.84	2.16	1.67	2.12	1.34	1.88	1.18	1.29	.87
Total of both sexes	350		300		271		239		169	
Percentage of both sexes on total mortality of quarter	4.47		3.83		3.46		3.06		2.16	

TABLE No. VII.—*Continued.*

DEATHS IN THE CITY OF NEW YORK FROM ALL CAUSES,

IN QUINQUENNIAL PERIODS, DURING THE THIRTEEN WEEKS ENDING SATURDAY, SEPT. 30TH, 1871.

1		2		3		4		Total under 5 Yrs.		5		10		15		20		25		30	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
176	136	33	45	25	23	10	20	889	800	48	28	23	19	38	21	61	41	65	55	60	54
155	146	37	40	14	16	16	12	691	610	37	27	15	12	31	27	59	42	69	66	50	40
218	167	47	46	24	19	16	13	757	710	31	20	25	9	29	24	45	40	56	50	60	60
549	449	117	131	63	58	42	45	2337	2120	116	75	63	40	98	72	165	123	190	171	170	154
7.01	5.73	1.49	1.67	.80	.74	.54	.57	29.83	27.07	1.48	.96	.84	.51	1.25	.92	2.11	1.57	2.42	2.18	2.17	1.97
998		248		121		87		4,457		191		103		170		288		361		324	
12.74		3.16		1.54		1.11		56.90		2.44		1.35		2.17		3.68		4.60		4.14	

TABLE No. VII.—*Continued.*

60		65		70		75		80		85		90		95		100 and upwards		Total by Sexes.		Total both Sexes.
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	..
31	17	20	19	23	24	9	9	1	7	7	5	1	1	..	1	..	..	1,501	1,272	2,773
24	29	20	21	18	18	9	11	9	15	3	2	..	3	1	2	1	..	1,307	1,084	2,391
43	26	27	28	27	31	16	18	5	18	1	6	1	1	..	1	..	..	1,417	1,252	2,669
98	72	67	68	68	73	34	38	15	40	11	13	2	5	1	4	1	..	4,225	3,608	7,833
1.25	.92	.85	.87	.87	.93	.43	.48	.19	.51	.14	.17	.03	.06	.01	.05	.01	..	53.94	46.06	100.00
170		135		141		72		55		24		7		5		1		7,833		
2.17		1.72		1.80		.91		.70		.31		.09		.06		.01		100.00		

TABLE No. VIII.

DEATHS REGISTERED EACH WEEK, BY CLASSES,

For the Third Quarter ending September 30th, 1871.

Classes.	Weeks.													Total each Class.
	1	2	3	4	5	6	7	8	9	10	11	12	13	
	July 1 to July 8.	July 8 to July 15.	July 15 to July 22.	July 22 to July 29.	July 29 to August 5.	August 5 to August 12.	August 12 to August 19.	August 19 to August 26.	August 26 to September 2.	September 2 to September 9.	September 9 to September 16.	September 16 to September 23.	September 23 to September 30.	
Zymotic	390	413	319	231	258	253	235	233	229	220	198	165	158	3,302
Constitutional ..	134	122	132	131	114	135	111	91	112	141	125	134	119	1,601
Local	176	174	136	138	156	178	130	156	136	163	141	156	193	2,033
Developmental..	39	39	24	23	35	38	42	39	34	37	35	36	24	445
Violence	27	74	29	22	94	40	19	33	18	15	27	28	26	452
Total	766	822	640	545	657	644	537	552	529	576	526	519	520	7,833

Mortality.

The mortality of this quarter was in excess by 1795 over that of the preceding quarter, and was less by 583 than that of the Summer quarter of 1870. The meteorological conditions of this quarter were so favorable as compared with those of the preceding summer that a much greater disparity might have been anticipated. It is true that Diarrhœal Diseases, the most sensitive in manifesting the effects of such conditions, exhibited a falling off of some 500 deaths; but the continued ravages of epidemic Small-pox, which occasioned 164 deaths, the large mortality from Whooping Cough amounting to 160, and the two deplorable catastrophes of the July Riot and the Westfield Explosion, increased inordinately the mortality of a season which was otherwise remarkably benign in its effects upon human life. There was some compensation in the fact that the Zymotic influences, as a class, with the exception of those due to marsh miasm, were more than usually in abeyance. The activity of Remittent, Intermittent and Typho-malarial fevers was very noticeable, especially in the upper wards of the city. The genial character of the summer seemed to exercise a peculiarly favorable influence upon those afflicted with constitutional pulmonary disease, as Phthisis, which had been so fatal during the previous six months, was now distinguished by a mortality considerably below that of the summer of 1870. Among persons far advanced in years, likewise, the stroke of death fell less frequently than usual, there having occurred but 305 deaths of persons 70 years old and upwards, against 343 in the previous summer. The gain to infant life was also large—4,000 children under two years old having been cut off during the three months, against 4,494 in the same season of 1870. The difference is to be explained principally by the excessive diarrhœal mortality during the preceding summer.

TABLE No. IX.—DEATHS FROM ZYMOTIC DISEASES.

NEW YORK.—Deaths from Small-pox, Measles, Scarlatina, Diphtheria, Croup, Whooping-Cough, Typhus Fever, Typhoid Fever, Cholera, Diarrhœal Maladies, and other Zymotic Diseases, during the Thirteen Weeks ending Saturday, September 30th, 1871.

Wards.	Small-pox.	Measles.	Scarlatina.	Diphtheria.	Croup.	Whooping-Cough.	Typhus Fever.	Typhoid Fev'r.	Cholera.	Other Diarrhœal Diseases.	Other Zymotic Diseases.	Total Deaths from Zymotic Diseases.	Total Deaths from all causes.	Perc'tage of Zymotic Deaths on Total Mortality.	Total Population (in Wards), Census of 1870.	Death Rate per 1,000 Annually of the Population from Zymotic causes.	Death Rate per 1,000 Annually of the Population from all causes.	Remarks.
First	..	3	1	..	1	1	..	1	..	42	6	55	180	30.55	14,463	15.21	49.78	Castle Garden and Emigrant Depot, 8.
Second	..	..	..	..	1	..	..	..	1	2	..	4	10	40.00	1,312	12.19	30.49	
Third	..	..	..	..	..	..	..	1	..	2	..	3	16	18.75	3,715	3.23	17.23	Third Prec. Sta., 1; Twenty-seventh Prec. Sta., 1.
Fourth.........	..	2	..	3	..	..	..	1	..	43	5	54	170	31.76	23,748	9.09	28.63	
Fifth...........	3	..	4	2	2	1	..	..	..	29	4	45	106	42.45	17,150	10.49	24.72	
Sixth..........	1	2	2	3	5	14	..	2	..	54	11	93	248	37.50	21,153	17.58	46.89	City Prison, 6; Reception Hospital, 39; Home of Industry, 3; Sixth Precinct Station, 1.
Seventh.........	..	..	7	1	3	9	1	..	..	96	7	124	327	37.92	44,818	11.07	28.96	
Eighth.........	1	..	2	..	1	6	..	2	..	76	5	93	252	36.90	34,913	10.65	28.87	
Ninth	2	1	..	2	..	1	..	5	..	76	12	99	262	37.78	47,609	8.32	22.01	St. Vincent's Hosp., 26; Jefferson Market Pris., 1.
Tenth	3	1	2	3	1	3	..	..	..	103	8	124	279	44.44	41,431	11.97	26.94	Essex Street Jail, 1.
Eleventh.......	2	1	6	3	5	11	4	6	..	151	15	204	506	40.31	64,230	12.70	31.51	St. Francis' Hospital, 34; Strangers' Hospital, 4; Ninth Precinct Station, 1.
Twelfth......	..	7	5	5	3	17	1	17	..	194	53	302	561	53.83	47,497	25.43	47.83	Ward's Island, 106; Randall's Island, 12; Bloomingdale Lunatic Asylum, 5; Randall's Island Idiot Asylum, 7; Soldiers' Retreat, 3; Infants' Hospital, 80; House of Good Shepherd, 4; House of Mercy, 1; St. Joseph's Asylum, 1.
Thirteenth.....	..	..	3	1	2	6	1	1	..	94	6	114	253	44.70	33,364	13.67	30.57	
Fourteenth.....	1	3	3	2	1	8	..	..	..	59	2	79	202	39.11	23,436	11.95	30.56	Lying-in Asylum, 1; Fourteenth Precinct Sta., 1.
Fifteenth.......	..	..	..	1	..	2	..	..	..	164	21	188	303	62.05	27,587	27.26	43.93	Foundling Hosp., 218; Fifteenth Precinct Sta., 1.
Sixteenth.	2	1	23	3	..	4	..	5	..	61	13	111	296	37.50	48,359	9.18	24.48	Samaritan Home, 1.
Seventeenth ...	12	2	21	1	5	17	6	3	4	240	20	331	704	47.02	95,365	13.88	29.53	
Eighteenth.....	1	2	6	6	4	10	..	..	..	106	10	145	344	42.15	59,593	9.73	23.09	
Nineteenth.....	112	10	24	3	5	18	2	14	..	264	41	493	1,079	45.69	86,090	22.90	50.13	Roman Catholic Orphan Asylum, 2; Fever Hospital, 6; German Hospital, 15; Workhouse, 4; Hospital for Ruptured and Crippled, 2; City Lunatic Asylum, 40; Almshouse, 43; Penitentiary, 1; Small-pox, 110; Charity Hospital, 125; Epileptic and Paralytic Hospital, 4; Colored Home Hospital, 34; Nursery and Child's Hospital, 34; St. Luke's Hospital, 23; Hebrew Orphan Asylum, 1; Nineteenth Precinct Station, 1.
Twentieth......	11	5	17	1	8	12	1	2	1	179	23	260	598	43.48	75,407	13.92	31.72	Mount Sinai Hospital, 18; House of the Little Sisters of the Poor, 1.
Twenty-first....	2	4	..	5	4	7	..	6	..	88	22	138	596	23.15	56,703	9.73	42.04	Bellevue Hospital, 296; Morgue, 11; Home of the Friendless, 1.
Twenty-second..	11	6	13	1	7	13	..	4	..	162	26	243	539	45.08	71,349	13.62	30.22	Ladies' Union Aid Institution, 1; House for Aged and Infirm, 1.
Totals......	164	49	138	46	58	160	16	70	6	2,285	310	3,302	7,833	42.15	942,292	14.01	33.25	Total in Institutions, 1,330, exclusive of 11 found in Morgue.

TABLE No. X.

DEATHS IN THE CITY OF NEW YORK FROM ALL CAUSES,

In Quinquennial Periods, during the Thirteen Weeks ending December 31st, 1871.

Months.	Nativity.				Colored.		Under One Year.	
	Un. States.		Foreign.					
	M.	F.	M.	F.	M.	F.	M.	F.
October	597	552	384	311	20	8	271	215
November	530	477	370	318	16	17	203	193
December	741	655	529	436	30	21	299	251
Total	1,868	1,684	1,283	1,065	66	46	773	659
Percentage of deaths in each period of life on total mortality of quarter	31.66	28.54	21.75	18.05	1.12	.77	13.10	11.16
Total of both sexes	3,552		2,348		112		1,432	
Percentage of both sexes on total mortality of quarter	60.20		39.80		1.89		24.26	

TABLE No. X.—*Continued.*

Months.	35		40		45		50		55	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
October	55	45	50	30	42	30	38	30	31	31
November	57	43	57	38	43	30	33	28	35	26
December	68	65	64	49	64	37	51	36	52	33
Total	180	153	171	117	140	97	122	94	118	90
Percentage of deaths in each period of life on total mortality of quarter	3.05	2.59	2.90	1.98	2.52	1.64	2.07	1.59	2.00	1.52
Total of both sexes	333		288		246		216		208	
Percentage of both sexes on total mortality of quarter	5.64		4.88		4.16		3.66		3.52	

TABLE No. X.—*Continued.*

DEATHS IN THE CITY OF NEW YORK FROM ALL CAUSES,

IN QUINQUENNIAL PERIODS, DURING THE THIRTEEN WEEKS ENDING DECEMBER 31ST, 1871.

1		2		3		4		Total under 5 Yrs.		5		10		15		20		25		30	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
85	94	39	41	12	23	18	17	425	390	35	21	16	15	19	23	39	50	69	56	60	49
86	62	44	33	18	23	15	19	366	330	28	26	15	15	27	22	50	49	43	44	60	44
102	103	56	45	39	28	18	25	514	452	29	47	24	20	26	34	63	58	69	78	89	63
273	259	139	119	69	74	51	61	1,305	1,172	92	94	55	50	72	79	152	157	181	178	209	156
4.63	4.39	2.36	2.02	1.17	1.25	.86	1.03	22.12	19.86	1.56	1.59	.93	.85	1.22	1.34	2.58	2.66	3.07	3.02	3.54	2.64
532		258		143		112		2,477		186		105		151		309		359		365	
9.02		4.38		2.42		1.89		41.98		3.15		1.73		2.56		5.24		6.09		6.18	

TABLE No. X.—*Continued.*

60		65		70		75		80		85		90		95		100 and upwards		Total by Sexes.		Total both Sexes.
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	..
30	25	23	21	25	13	9	12	5	13	3	6	2	1	4	2	1	..	981	863	1,844
27	27	15	21	26	21	8	13	6	13	1	4	2	..	1	..	..	1	900	795	1,695
57	31	31	28	31	22	21	20	9	8	6	5	..	2	2	..	..	3	1,270	1,091	2,361
114	83	69	70	82	56	38	45	20	34	10	15	4	3	7	2	1	4	3,151	2,749	5,900
1.93	1.41	1.17	1.19	1.39	.95	.64	.76	.34	.58	.17	.25	.07	.05	.12	.03	.02	.06	53.41	46.59	100.00
197		139		138		83		54		25		7		9		5		5,900		
3.34		2.36		2.34		1.40		.92		.42		.12		.15		.08		100.00		

FOURTH OR AUTUMNAL QUARTER OF 1871—THIRTEEN WEEKS AND ONE DAY, ENDING DEC. 31ST.

During this quarter, there were registered 2,479 marriages, and 5,802 births—being 287 more marriages and 1,915 more births than for the corresponding quarter of 1870. The deaths amounted to 5,900 or 49 less than in the previous autumnal quarter.

Meteorology.

The mean temperature of October was 56.81°, being greater by .84° than that of the corresponding month during the past ten years. Rain fell upon ten days of the month to the amount of 7.72 inches, against 5.72 inches in October, 1870. The mean reading of the barometer was 29.996 inches, and the mean degree of humidity, 61.86.

The mean temperature of November was 40.81°, being 2.40° less than that of the corresponding month during the past ten years. Snow or rain fell upon nine days to the amount of 4.61 inches, against 2.41 in November, 1870. The mean reading of the barometer was 29.881 inches, and the mean humidity, 57.01.

The mean temperature of December was 31.56°, being 3.22° less than that of the corresponding month during the past ten years. Snow or rain fell upon fifteen days to the amount of 2.03 inches, against 2.83 inches in December, 1870. The mean reading of the barometer was 29.958 inches, and the mean degree of humidity, 61.94.

The mean temperature of the quarter was 43.06°, being 3.87° lower than that of the Winter quarter of 1870, and 1.59° lower than that of the corresponding quarter during the past ten years. The maximum temperature was 73° on October 14th and 15th, and the minimum temperature .5° on December 21st. Rain or snow fell upon 34 days of the quarter to the amount of 14.36 inches against 10.96 inches, in the Autumnal quarter of 1870. The highest reading of the barometer was 30.493 inches on December 22nd, its lowest reading 29.308 inches on November 15th, and its mean reading 29.945 inches. The greatest degree of humidity was 94.66 on October 26th, the lowest degree 30.93 on December 28th, and the mean degree 60.27. The first snow fell upon November 16th. The Aurora Borealis was visible on November 9th.

TABLE No. XI.

DEATHS REGISTERED EACH WEEK, BY CLASSES,

For the Fourth Quarter ending December 31st, 1871.

Classes.	Weeks.													Total each Class.
	1	2	3	4	5	6	7	8	9	10	11	12	13	
	September 30 to October 7.	October 7 to October 14.	October 14 to October 21.	October 21 to October 28.	October 28 to November 4.	November 4 to November 11.	November 11 to November 18.	November 18 to November 25.	November 25 to December 2.	December 2 to December 9.	December 9 to December 16.	December 16 to December 23.	December 23 to December 31.	
Zymotic	130	121	108	124	102	99	108	111	110	96	108	115	154	1,486
Constitutional ..	120	114	112	125	107	120	99	112	115	130	110	98	123	1,485
Local	169	188	153	159	146	183	158	165	155	156	173	198	239	2,242
Developmental..	26	29	33	31	25	27	32	26	33	26	38	40	25	391
Violence	29	30	25	18	20	13	26	16	30	24	23	25	17	206
Total	474	482	431	457	400	442	423	430	443	432	452	476	558	5,900

Mortality.

The mortuary history of these three months is, with a few notable exceptions, very similar to that of the same season of 1870, there being a difference of only 49 deaths. The two principal epidemics were those of Small-pox which occasioned 129 deaths, and Whooping Cough to which 186 deaths were attributed. But 13 deaths were due to Measles, 16 to Typhus Fever, and 83 to Typhoid Fever. Scarlatina, Diphtheria and Croup, were prevalent but not unusually so. Remittent and Intermittent Fevers were widespread and fatal to a more than ordinary degree, causing 56 and 32 deaths respectively. Phthisis Pulmonalis produced 132 less deaths than in the previous Autumnal quarter, and the Local Respiratory Affections about an equal number in each of said quarters.

TABLE No. XII.—DEATHS FROM ZYMOTIC DISEASES.

NEW YORK.—DEATHS FROM SMALL-POX, MEASLES, SCARLATINA, DIPHTHERIA, CROUP, WHOOPING-COUGH, TYPHUS FEVER, TYPHOID FEVER, YELLOW FEVER, DIARRHŒAL MALADIES, AND OTHER ZYMOTIC DISEASES, DURING THE THIRTEEN WEEKS AND ONE DAY ENDING SATURDAY, DECEMBER 31ST, 1871.

WARDS.	Small-pox.	Measles.	Scarlatina.	Diphtheria.	Croup.	Whooping-Cough.	Typhus Fever.	Typhoid Fev'r	Diarrhœal Diseases.	Yellow Fever.	Other Zymotic Diseases.	Total Deaths from Zymotic Diseases.	Total Deaths from all causes.	Perc'tage of Zymotic Deaths on Total Mortality.	Total Population (in Wards), Census of 1870.	Death Rate per 1,000 Annually of the Population from Zymotic causes.	Death Rate per 1,000 Annually of the Population from all causes.	REMARKS.
First	..	..	13	2	1	7	..	2	2	..	3	30	120	25.00	14,463	8.29	33.19	Castle Garden and E. Depot, 2; First Prec. Sta., 1.
Second	..	..	..	1	1	1	..	..	1	..	1	5	16	1.25	1,312	15.24	48.78	
Third	..	..	..	..	1	..	..	..	1	..	1	3	23	13.04	3,715	3.23	24.76	Twenty-seventh Precinct Station, 1.
Fourth	2	..	1	1	11	6	..	1	5	..	8	35	158	22.15	23,748	5.89	26.61	Fourth Precinct Station, 3.
Fifth	..	..	7	3	6	..	..	2	4	..	5	27	124	21.76	17,150	6.29	28.92	
Sixth	1	..	4	2	4	11	..	2	11	..	7	42	195	21.54	21,153	7.94	36.87	City Prison, 4; Reception Hospital, 34.
Seventh	..	..	13	2	16	8	..	2	11	..	7	59	244	24.18	41,818	5.26	21.77	Seventh Precinct Station, 1.
Eighth	5	..	5	1	6	3	1	3	14	..	10	48	231	20.69	34,913	5.50	26.46	
Ninth	..	..	7	1	8	2	..	3	9	..	16	46	205	22.44	47,609	3.86	17.22	St. Vincent's Hosp., 32; Jefferson Market Pris., 1. Ninth Prec. Sta., 1; Twenty-eighth Prec. Sta., 1.
Tenth	5	1	4	3	..	5	1	2	14	..	13	48	222	21.62	41,431	4.63	21.43	Essex Street Jail, 1; Tenth Precinct Station, 1.
Eleventh	..	..	8	2	11	12	3	12	14	..	14	76	390	19.49	64,230	4.73	24.29	St. Francis' Hos. 40; Strangers' Hos. 3; 11th Pr. St. 1.
Twelfth	6	9	10	6	5	19	7	8	35	..	35	140	393	35.62	47,497	11.79	33.09	House of Refuge, 2; Soldiers' Retreat, 2; House of Good Shepherd, 5; N.Y. Juvenile Asylum, 1; St. Joseph's Home, 1; Ward's Island, 96; Randal.'s Island, 7; Bloomingdale Lun. Asyl., 5; Infants' Hos., 41; Deaf & Dumb Asyl., 1; Recep. Hos., 2; Twelfth Prec. Stat., 1; R. I. Idiot Asylum, 1.
Thirteenth	2	..	5	..	11	11	..	1	10	..	4	44	180	24.44	33,364	5.27	21.58	
Fourteenth	2	..	4	6	9	9	..	2	9	..	9	50	165	30.30	23,436	7.56	24.96	
Fifteenth	..	..	1	1	7	5	..	1	89	..	16	120	234	51.28	27,537	17.40	37.55	Foundling Hosp., 133; Fifteenth Precinct Sta., 1.
Sixteenth	1	1	17	5	6	5	..	6	8	..	14	63	244	25.82	48,359	5.21	20.18	
Seventeenth	10	..	11	2	10	12	..	8	25	..	19	97	416	21.75	95,365	4.07	18.71	Seventeenth Precinct Station, 1.
Eighteenth	1	1	10	1	8	13	..	1	10	..	14	59	265	22.26	59,593	3.96	17.79	Home for Respectable Aged & Indigent Women, 1.
Nineteenth	77	..	19	2	14	12	1	13	37	1	35	211	774	27.26	86,090	9.80	35.96	Workhouse, 9; Fever Hosp., 9; German Hos., 21; Woman's Hosp., 3; Presbyterian Home, 1; City Lun. Asyl., 57; Almshouse, 27; Penitentiary, 3; Small-pox, 74; Charity Hosp., 122; Epileptic and Paralytic Hosp., 3; Colored Home Hospital, 27; Nursery & Child's Hos., 27; St. Luke's Hos., 32; R. C. Orphan Asylum, 8; Hospital for Ruptured and Crippled, 2; Nineteenth Prec. Station, 1.
Twentieth	4	..	11	4	20	20	..	5	12	..	14	90	406	22.17	75,407	4.77	21.53	Mt. Sinai Hosp., 7; House of Little Sisters of the Poor, 4; St. Mary's Hospital, 1; Twentieth Precinct Station, 1; Twenty-ninth Prec. Stat., 1.
Twenty-first	2	1	8	3	5	12	1	5	23	1	24	85	487	17.45	56,703	5.99	34.18	Bellevue Hosp., 242; Morgue, 7; Home of Friendless, 9; in ambulance on way to Hospital, 2.
Twenty-second	11	..	25	6	10	13	2	4	17	..	20	108	378	28.57	71,849	6.05	21.19	Roosevelt Hospital, 8; New York Orphan Asylum, 1; Twenty-second Precinct Station, 1.
Totals	129	13	183	54	170	186	16	83	361	2	289	1,486	5,900	25.19	942,292	6.31	25.04	Total in Institutions, 1,181, exclusive of 7 found in Morgue.

PRINCIPAL METEOROLOGICAL FEATURES OF THE YEAR.

The mean temperature of the year was 52.74° Fahr., being .78° lower than that of the past ten years. The maximum temperature was 91.5° on July 12th, and the minimum temperature .5° on December 21st. Rain or snow fell upon 138 days to the amount of 60.40 inches, against 47.53 inches during 125 days of 1870. The greatest atmospheric pressure occurred on January 25th, when the Barometer stood at 30.623 inches. Its lowest reading was 29.185 inches on February 18th, and its mean 29.902 inches. The greatest degree of humidity was 94.66 on October 26th, the least degree 18.80 on March 25th, and the mean degree 58.66. (Saturation being represented by 100.)

MARRIAGES AND BIRTHS DURING THE YEAR 1871.

During the year 1871, there were registered 8,646 marriages and 20,821 births, being an increase upon the previous year of 661 marriages and 6,297 births.

TABLE No. XIII.

METEOROLOGICAL OBSERVATIONS FOR THE TWELVE MONTHS ENDING DECEMBER 31st, 1871.

CONDENSED FROM DAILY OBSERVATIONS OF PROFESSOR ORAN W. MORRIS, OBSERVER IN NEW YORK FOR THE SMITHSONIAN INSTITUTE.

DATE, WEEK ENDING.	Mean Temperature (Fahrenheit Scale).	Difference between Mean Temperature and Mean of corresponding period during the past 10 years.	Greatest Daily Range of Temperature during the Week.	Average Humidity, Saturation being 100°.	Total Rainfall (Inches of Water).	Mean Pressure of the Atmosphere.	Prevalent Winds.	REMARKS CONCERNING THE GENERAL ASPECTS OF THE WEATHER.
January 7, 1871	33.72	— 6.83	26.0	51.18	.3	29.932	N.W.	Rain on one day. Lunar halo on the 3d and 4th. Lunar halo and corona on 5th. Eclipse of Moon on 6th.
" 14, "	30.31	— 7.99	23.0	63.54	.15	30.233	N.E.	Snow on one day. Solar halo on the 10th.
" 21, "	36.02	— 0.77	21.0	64.88	1.11	30.105	N.E.	Rain on two days. Snow on one day. Solar haloes on 18th.
" 28, "	18.11	—14.58	28.0	59.56	2.46	30.145	N.E.	Snow on four days.
February 4. "	32.99	2.05	21.0	66.84	.75	29.897	S.W.	Snow on one day. Rain on three days.
Average for the month (31 days).......	29.90	— 6.90	....	61.93	4.77	30.098	....	
February 11, 1871.....................	28.08	— 6.47	18.0	58.83	.2	30.087	N.W.	Snow on one day, A.M. Rain on the same day, P.M.
" 18, "	33.08	— 1.71	15.0	66.15	3.88	29.859	N.E.	Snow on two days. Rain on two days.
" 25, "	35.14	— 6.46	20.0	58.72	.3	30.061	N.E., S.W.	Snow on one day. Rain on two days.
March 4, "	42.84	— 7.57	21.0	56.76	1.18	29.794	N.E.	Rain on three days. Snow on one day
Average for the month (28 days).......	32.88	— 2.29	....	59.30	5.38	29.946	....	
March 11, 1871........................	45.69	+10.08	15.0	63.64	.55	29.974	S.E.	Rain on four days. Lunar halo on the 5th. Solar halo on the 11th.
" 18, "	44.00	+ 6.50	23.0	68.85	1.27	29.912	N.E.	Rain on five days. Thunder and lightning on the 12th.
" 25, "	44.97	+ 6.63	25.0	47.49	2.2	29.848	N.W.	Rain on two days. Solar halo on the 20th.
April 1, "	41.00	— 2.32	14.0	50.03	1.7	29.829	N.W.	Rain on four days. Snow on one day. Solar halo on the 26th. Lunar halo on the 29th.
Average for the month (31 days).......	44.48	+ 6.46	....	57.41	5.00	29.887	....	
Average for 1st qr., 1871 (3 calendar mos.)	35.78	— 0.91	....	59.55	15.15	29.977	....	

April 8, 1871	51.05	+6.67	25.0	53.63	.65	29.716	S.W.	Rain on one day. Snow on one day.
" 15, "	57.75	+9.13	33.0	43.86	.15	29.645	N.W.	Rain on two days. Thunder shower on the 11th. Aurora Borealis on the 13th.
" 22, "	52.62	—0.88	20.0	49.27	.05	29.807	N.W.	Slight rain on three days. Aurora Borealis on the 17th. Thunder shower on the 21st.
" 29, "	53.29	—1.06	18.0	51.72	1.70	29.958	N.E.	Rain on three days. Lunar corona on the 29th.
May 6, "	53.93	+0.72	19.0	65.01	2.6	29.760	N.E.	Rain on four days.
Average for the month (30 days)	53.99	+3.81	....	50.46	3.45	29.778	....	
May 13, 1871	55.22	—3.65	19.5	37.54	.95	29.785	N.W.	Rain on one day.
" 20, "	61.18	+0.16	26.0	38.55	.25	29.886	N.W., S.W.	Rain on one day. Thunder shower on the 16th.
" 27, "	69.77	+6.93	20.0	42.51	....	29.954	N.W.	
June 3, "	72.65	+7.01	26.0	66.05	1.1	29.939	S.E.	Two thunder showers on the 31st of May.
Average for the month (31 days)	61.84	+2.43	....	47.69	4.90	29.766	....	
June 10, 1871	72.11	+6.07	23.0	59.55	2.25	29.776	S.W.	Thunder shower on the 4th. Three thunder showers on the 7th.
" 17, "	67.40	—2.34	22.0	53.99	.97	29.755	N.W.	Rain on four days. Thunder shower on the 15th. Two rainbows on the 15th.
" 24, "	67.99	—3.45	28.0	62.49	4.65	29.822	N.W.	Rain on three days. Earthquake on the 18th. Lightning on the 20th. Thunder shower on the 24th.
July 1, "	67.61	—6.72	23.0	57.02	.15	29.852	S.E.	Rain on one day. Thunder shower on the 28th.
Average for the month (30 days)	69.34	—0.66	....	59.58	8.02	29.817	....	
Average for 2d quarter (3 calendar mos.)	61.72	+1.68	....	52.57	16.37	29.787	....	
July 8, 1871	75.27	—0.83	23.8	63.78	.24	29.853	S.E.	Slight rain on three days. Lightning on the 2d. Thunder showers on the 3d and on the 6th.
" 15, "	79.48	+2.82	28.5	62.48	1.92	29.763	S.E., S.W.	Rain on one day. Thunder showers on the 9th and on the 11th. Violent thunder storm on the 15th.
" 22, "	70.32	—5.24	25.0	57.99	1.70	29.704	N.W.	Rain on one day. Thunder shower and hail on the 16th. Thunder shower on the 21st.
" 29, "	69.60	—7.32	19.0	68.37	1.95	29.938	S.W.	Rain on four days. Parhelia on the 24th. Thunder showers on the 27th and 28th. Rainbow on the 28th.
August 5, "	75.52	—3.15	13.0	69.84	.95	29.829	S.W.	Rain on one day. Thunder showers on the 31st of July, and on the 4th and 5th of August.
Average for the month (31 days)	73.57	—2.95	....	63.69	6.26	29.828	....	

TABLE No. XIII.—*Continued.*

METEOROLOGICAL OBSERVATIONS FOR THE TWELVE MONTHS ENDING DECEMBER 31st, 1871.

CONDENSED FROM DAILY OBSERVATIONS OF PROFESSOR ORAN W. MORRIS, OBSERVER IN NEW YORK FOR THE SMITHSONIAN INSTITUTE.

DATE, WEEK ENDING.	Mean Temperature (Fahrenheit Scale).	Difference between Mean Temperature and Mean of corresponding period during the past 10 years.	Greatest Daily Range of Temperature during the Week.	Average Humidity, Saturation being 100°.	Total Rainfall (Inches of Water).	Mean Pressure of the Atmosphere.	Prevalent Winds.	REMARKS CONCERNING THE GENERAL ASPECTS OF THE WEATHER.
August 12, 1871	78.15	—1.98	17.0	54.21	.6	29.820	S.W.	Rain on one day. Thunder shower on the 12th.
" 19, "	74.65	+1.57	16.0	64.88	.7	29.850	N.W., S.E.	Rain on one day. Thunder shower on the 16th.
" 26, "	71.91	—1.24	13.0	73.66	3.	29.985	S.E.	Rain on two days. Thunder showers on 23d and 25th.
Septem. 2, "	72.77	+1.76	17.5	65.24	1.61	29.869	S.	Rain on three days. Rainbow on the 30th of August.
Average for the month (31 days).......	75.23	+0.24	....	65.45	6.41	29.855	....	
September 9, 1871	69.10	—1.37	19.0	59.65	....	30.043	N.E.	Clear Aurora Borealis on the 7th.
" 16, "	62.12	—6.10	15.0	64.57	.95	30.147	N.E.	Rain on two days.
" 23, "	58.98	—5.99	21.0	55.83	....	29.975	N.W.	Slight rain on one day.
" 30, "	58.06	—4.80	18.5	53.19	.9	29.864	N.W.	Rain on one day. Thunder shower on the 26th.
Average for the month (30 days).......	62.38	—4.19	....	57.63	1.85	30.013	....	
Average for 3d quarter (3 calendar mos.)	70.39	—2.30	....	62.26	14.52	29.898	....	
October 7, 1871	60.33	—0.38	14.0	68.99	2.8	29.862	N.W.	Rain on two days.
" 14, "	60.07	+3.15	23.0	63.13	2.6	30.083	S.E.	Rain on two days.
" 21, "	53.25	—2.80	19.0	49.76	....	30.042	N.W.	Slight rain on two days.
" 28, "	56.89	+7.17	20.0	68.35	2.32	29.943	N.E.	Rain on four days.
Novem. 4, "	48.93	—0.58	24.0	54.61	.52	29.993	N.W.	Rain on one day. Lunar corona on October 30th.
Average for the month (31 days).......	56.81	+0.84	....	61.86	7.72	29.996	....	

November 11, 1871	41.44	— 4.86	23.0	49.43	.65	29.892	N.W.	Rain on one day. Aurora Borealis on the 9th.
" 18, "	41.50	+ 1.73	19.0	60.22	2.25	29.921	N.W.	Rain and violent gale on the 14th. Slight snow storm on the 16th.
" 25, "	42.65	+ 1.37	19.0	65.05	1.17	29.984	N.W.	Rain on two days. Lunar corona on the 22d. Lunar halo on the 23d.
December 2, "	29.68	—10.92	34.0	55.05	.02	29.883	W.	Rain on one day. Light snow on one day.
Average for the month (30 days)	40.81	— 2.40	....	57.01	4.61	29.881	....	
December 9, 1871	32.45	— 7.33	22.0	55.58	.30	29.808	W.	Rain on two days. Snow on four days.
" 16, "	31.66	— 2.38	14.0	55.62	.03	29.919	S.W.	Rain on one day. Snow on one day.
" 23, "	25.95	— 6.17	26.0	66.01	1.20	30.015	N.W.	Rain on two days. Snow on four days.
Eight days ending Dec. 31, 1871	36.40	+ 2.08	21.0	71.06	.5	30.059	S.W.	Rain on five days. Snow on one day. Lunar corona on the 24th and on the 25th. Lunar halo on the 28th.
Average for the month (31 days)	31.56	— 3.22	....	61.94	2.03	29.953	....	
Average for 4th quarter (3 calendar mos.)	43.06	— 1.59	..	60.27	14.36	29.945	....	
Average for the year	52.74	— 0.78	....	58.66	60.40	29.902	....	

TABLE No. XIV.

CONSOLIDATED ABSTRACT OF DEATHS IN NEW YORK FROM ALL CAUSES,

For the Twelve Months ending December 31st, 1871.

Causes of Death.	Nativity.				Colored.		Under 1 Year.		1		2		3		4		Total Under 5 Years.		5		10		15		20		25		30	
	Un. States.		Foreign.																											
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Class I.—ZYMOTIC DISEASES.																														
Order 1.—*Miasmatic.*																														
Small-pox and Varioloid	288	231	166	120	13	2	74	58	34	33	23	14	17	18	13	11	161	134	40	41	18	17	23	27	61	36	60	37	42	17
Varicella	4	1	1	..	..	..	3	1	1	..	1	..	..	..	..	..	5	1	..	..	..	..	..	..	..	..	..	..	..	..
Measles	201	187	12	9	2	4	60	42	78	76	35	44	16	15	10	8	199	185	11	8	3	..	..	2	..	1	..	..	..	..
Scarlatina	357	358	40	36	..	..	28	22	69	51	88	91	68	74	49	55	302	293	72	79	13	12	3	3	2	4	3	2	..	..
Diphtheria	107	117	8	6	..	1	16	14	29	31	28	19	16	14	5	11	94	89	15	27	2	2	1	1	1	2	..	1	..	..
Croup (Membranous	233	209	11	13	1	..	31	23	77	62	66	55	31	38	22	20	227	198	14	21	2	2	..	..	..	1	..	..	..	..
Quinsy (Tonsillitis)	11	3	1	1	..	..	2	1	6	..	..	1	2	1	2	..	12	3	..	..	..	..	..	1	..	..	..	..	..	..
Parotitis	1	4	..	..	..	..	1	2	..	2	..	..	..	..	..	..	1	4	..	..	..	..	..	..	..	..	..	..	..	..
Whooping-cough	190	264	6	5	..	1	103	136	65	78	17	28	5	11	4	10	194	263	2	6	..	..	..	..	..	..	..	..	..	..
Influenza	2	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Typhus Fever	11	11	32	11	..	..	..	1	..	..	..	1	2	..	1	1	3	3	4	..	3	1	5	4	4	3	4	5	8	..
Typhoid Fever	69	35	86	49	2	1	..	1	..	1	..	1	3	..	2	..	5	3	13	8	9	11	19	17	27	13	20	12	22	5
Continued Fever	..	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..
Remittent Fever	49	53	37	26	..	1	6	4	7	7	6	12	5	8	5	1	29	32	7	5	1	2	7	4	5	3	3	6	7	3
Intermittent Fever	32	39	22	17	1	..	8	5	3	4	4	8	1	5	1	2	17	24	4	5	4	2	3	..	1	1	3	1	1	1
Typho-Malarial Fever	6	1	3	2	..	..	1	1	2	..	..	..	..	..	..	..	3	1	..	..	..	..	1	..	..	..	..	1	1	..
Congestive Chill	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Relapsing Fever	..	1	4	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..
Yellow Fever	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
Cerebro-Spinal Meningitis	4	2	..	..	..	..	..	..	2	..	1	..	..	..	..	..	3	..	..	..	..	1	..	..	1	..	..	..	..	..
Puerperal Fever	..	18	..	62	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	..	21	..	22	..	15
Pyæmia	4	5	6	4	..	..	1	2	..	..	..	..	..	..	..	..	1	2	..	..	1	1	1	..	..	1	1	..	2	1
Erysipelas	54	56	15	20	1	..	41	41	3	2	2	1	..	1	..	1	46	46	1	1	..	..	1	3	..	1	2	1	..	4
Carbuncle	2	3	2	1	..	..	1	..	..	1	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	1	..
Hospital Gangrene	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dysentery	66	66	44	48	..	1	32	28	15	16	6	4	3	2	1	2	57	52	6	2	..	..	2	2	2	5	4	6	6	2
Diarrhœa — Total deaths from Diarrhœal Diseases...3,653	1571	1430	111	119	12	16	1232	1115	316	273	34	33	6	6	1	6	1589	1433	8	4	2	4	1	1	1	5	1	5	6	11
Cholera	2	..	3	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cholera-Morbus	4	5	28	31	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2	..	..	..	3	..	1	3	2	2
Entero-Colitis	64	53	3	4	..	..	42	39	22	12	2	2	..	..	..	..	66	53	..	1	..	..	..	..	..	..	..	..	..	..
Total Miasmatic Diseases	3384	3153	645	586	33	27	1682	1536	730	649	313	314	175	193	116	128	3016	2820	195	209	60	56	67	78	110	97	102	102	98	61

TABLE No. XIV.—*Continued.*

CONSOLIDATED ABSTRACT OF DEATHS IN NEW YORK FROM ALL CAUSES,

For the Twelve Months ending December 31st, 1871.

Causes of Death.	35		40		45		50		55		60		65		70		75		80		85		90		95		100 and upw'ds		Total by Sexes.		Total both Sexes.	Percent'ge of each Cause on Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M	F	M	F	M	F	M	F	M	F	M.	F.		
Class 1.—ZYMOTIC DISEASES.																																
Order 1.—*Miasmatic.*																																
Small-pox and Varioloid	22	11	7	12	8	10	6	4	4	3	1	..	..	1	..	..	..	1	1	..	..	..	..	..	..	..	..	..	454	351	805	2.98
Varicella	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	1	6	.02
Measles	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	213	196	409	1.51
Scarlatina	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	397	394	791	2.93
Diphtheria	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	115	123	238	.88
Croup (Membranous)	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	244	222	466	1.72
Quinsy (Tonsillitis)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	12	4	16	.06
Parotitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	4	5	.02
Whooping-cough	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	196	269	465	1.72
Influenza	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	2	..	2	.008
Typhus Fever	1	1	1	2	2	2	3	1	4	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	43	22	65	.24
Typhoid Fever	10	5	6	3	9	3	5	1	4	..	2	1	2	..	1	2	..	..	1	..	..	..	..	..	..	..	..	..	155	84	239	.88
Continued Fever	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	3	.01
Remittent Fever	5	5	6	..	4	2	3	3	1	1	4	4	2	..	..	3	2	1	..	3	..	2	..	..	..	..	..	..	86	79	165	.61
Intermittent Fever	4	2	3	..	3	1	..	1	1	1	2	2	4	3	3	6	1	5	..	1	..	..	..	..	..	..	..	..	54	56	110	.41
Typho-Malarial Fever	..	..	1	..	1	..	..	1	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	9	3	12	.04
Congestive Chill	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Relapsing Fever	..	..	..	..	..	..	1	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	4	2	6	.02
Yellow Fever	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2	.008
Cerebro-Spinal Meningitis	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	2	6	.02
Puerperal Fever	..	12	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	80	80	.29
Pyæmia	..	1	..	..	..	2	..	..	1	1	1	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	10	9	19	.07
Erysipelas	3	1	2	4	2	3	4	2	4	..	..	..	1	4	2	2	..	2	..	2	1	..	..	..	..	..	..	..	69	76	145	.54
Carbuncle	..	..	..	..	..	..	1	..	..	2	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	4	4	8	.03
Hospital Gangrene	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Dysentery	2	3	5	8	4	6	4	2	3	3	4	6	2	4	4	8	4	1	1	1	..	1	..	1	..	..	..	1	110	114	224	.83
Diarrhœa	5	12	6	5	7	11	13	11	7	11	10	6	7	12	12	8	4	4	5	4	2	2	..	..	1	..	..	..	1682	1549	3231	11.97
Cholera	1	..	1	..	..	..	1	..	..	..	..	..	2	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	5	1	6	.02
Cholera-Morbus	2	5	6	3	7	5	2	..	2	2	..	5	2	4	2	3	..	1	..	2	..	..	..	..	..	..	..	..	32	36	68	.25
Entero-Colitis	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	67	57	124	.46
Total Miasmatic Diseases	59	59	45	41	48	45	43	27	32	24	26	24	26	29	26	34	13	16	8	14	3	6	1	1	1	..	..	1	3979	3739	7718	28.61

TABLE No. XIV.—*Continued.*

CONSOLIDATED ABSTRACT OF DEATHS IN NEW YORK FROM ALL CAUSES,

For the Twelve Months ending December 31st, 1871.

Causes of Death.	Nativity.				Color'd		Under 1 Year.		1		2		3		4		Total Under 5 Years.		5		10		15		20		25		30	
	Un. States.		Foreign.																											
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Class I.—ZYMOTIC DISEASES.																														
Order 2.—*Enthetic or Inoculated.*																														
Hydrophobia	3	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	1	..	..	..	..	..	1	..
Malignant Pustule	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Syphilis	67	67	4	4	6	2	57	56	1	3	..	1	1	1	..	..	59	61	..	..	..	..	..	..	..	4	1	2	3	2
Total Enthetic or Inoculated Dise's	70	67	9	4	6	2	57	56	1	3	..	1	1	1	..	..	59	61	1	..	1	..	1	..	..	4	1	2	5	2
Order 3.—*Dietic.*																														
Alcoholism { Intemperance	20	9	55	35	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	2	2	12	3	6	7
Alcoholism { Del. Tremens.	21	7	63	10	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	2	14	4	12	4
Inanition	99	77	4	3	3	..	95	74	3	2	1	..	1	..	..	..	100	76	..	..	..	..	..	..	..	1	..	1	..	..
Purpura	7	9	1	7	..	..	2	2	2	..	1	..	..	..	..	1	5	3	1	1	..	..	..	..	..	..	..	1	.	2
Scurvy	3	2	6	5	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	1	2	1	..	1	..
Total Dietic Diseases	150	104	129	60	4	2	97	76	6	2	2	..	1	..	..	1	106	79	2	1	..	..	1	1	5	7	27	9	19	13
Order 4.—*Parasitic.*																														
Aphthæ	21	24	..	..	..	1	20	24	..	..	1	..	..	..	..	..	21	24	..	..	..	..	..	..	..	..	..	..	..	..
Ascaris Lumbricoides	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Hydatid of Uterus	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
" of Liver	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Tænia	..	..	..	2	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..
Worms	..	2	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	2	..	..	..	..	..	..	..	..	..	..	..	..
Total Parasitic Diseases	21	29	..	3	..	1	20	25	..	2	1	1	..	..	..	1	21	29	..	..	..	..	..	..	..	..	..	2	..	1
Total Zymotic Class	**3575**	**3358**	**783**	**658**	**43**	**32**	**1850**	**1698**	**787**	**656**	**316**	**316**	**177**	**194**	**116**	**130**	**3202**	**2989**	**198**	**210**	**61**	**56**	**69**	**74**	**115**	**108**	**130**	**115**	**132**	**77**

TABLE No. XIV.—*Continued.*

CONSOLIDATED ABSTRACT OF DEATHS IN NEW YORK FROM ALL CAUSES,

FOR THE TWELVE MONTHS ENDING DECEMBER 31ST, 1871.

CAUSES OF DEATH.	35		40		45		50		55		60		65		70		75		80		85		90		95		100 and upwards.		Total by Sexes.		Total both Sexes.	Percent'ge of each Cause on Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M	F	M	F	M.	F.	M.	F.		
CLASS I.—ZYMOTIC DISEASES.																																
Order 2.—*Enthetic or Inoculated.*																																
Hydrophobia	1	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	..	7	.03
Malignant Pustule	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Syphilis	2	1	2	1	1	..	1	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	71	71	142	.52
Total Enthetic or Inoculated Dise's	3	1	4	1	1	..	1	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	79	71	150	.55
Order 3.—*Dietic.*																																
Alcoholism { Intemperance	14	8	8	7	11	6	6	4	5	3	3	3	5	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	75	44	119	.44
Alcoholism { Del. Tremens	12	3	17	2	8	1	14	..	3	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	84	17	101	.37
Inanition	2	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	103	80	183	.68
Purpura	1	1	..	2	..	..	..	..	..	..	1	..	..	..	..	2	..	3	..	..	..	1	..	..	..	..	..	..	8	16	24	.09
Scurvy	1	..	..	2	..	..	1	2	..	..	..	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	9	7	16	.06
Total Dietic Diseases	30	12	25	14	19	7	21	6	8	3	5	4	6	1	4	3	1	3	..	..	..	1	..	..	..	..	..	..	279	164	443	1.64
Order 4.—*Parasitic.*																																
Aphthæ	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	21	24	45	.17
Ascaris Lumbricoides	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
Hydatid of Uterus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	.008
" Liver	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
Tænia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	.008
Worms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	.004
Total Parasitic Diseases	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	21	32	53	.20
Total Zymotic Class	92	72	74	56	68	52	65	33	41	27	32	28	32	30	30	37	14	19	8	14	3	7	1	1	1	..	..	1	4358	4006	8364	31.01

TABLE No. XIV.—*Continued.*

CONSOLIDATED ABSTRACT OF DEATHS IN NEW YORK FROM ALL CAUSES,

For the Twelve Months ending December 31st, 1871.

Causes of Death.	Nativity.				Colored.		Under 1 Year.		1		2		3		4		Total Under 5 Years.		5		10		15		20		25		30	
	Un. States.		Foreign.																											
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F	M.	F.	M.	F.
Class II.—CONSTITUTIONAL DISEASES.																														
Order 1.—*Diathetic.*																														
Anæmia	13	12	5	9	1	..	11	9	..	..	1	..	1	..	..	..	13	9	..	1	..	..	..	..	..	2	..	3	..	1
Cancer of Abdomen	..	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	1	..
" of Breast	..	9	..	26	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
" of Bladder	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" of Bowels	..	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" of Brain	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" of Cervical Glands	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" of Cæcum	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Epithelial	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" " (Labia Majora)	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" of Face	2	1	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" of Genitals	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" General	..	2	..	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" of Hand	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" of Intestines	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" of Inguinal Gland	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" of Inferior Maxillary	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" of Kidneys and Liver	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" of Liver	4	4	16	31	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	1	..
" of Leg	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" of Lips	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" of Lungs	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" of Mesentery	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" of Mouth	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" of Neck	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Nasal and Frontal	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" of Ovary	..	1	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
" of Orbit	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
" of Œsophagus	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Omentum	..	1	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Peritoneum	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

TABLE No. XIV.—*Continued.*

CONSOLIDATED ABSTRACT OF DEATHS IN NEW YORK FROM ALL CAUSES,

For the Twelve Months ending December 31st, 1871.

Causes of Death.	35		40		45		50		55		60		65		70		75		80		85		90		95		100 and upw'ds		Total by Sexes.		Total both Sexes.	Percent'ge of each Cause on Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M	F	M	F	M	F	M	F	M	F	M.	F.		
Class II.—CONSTITUTIONAL DISEASES.																																
Order 1.—*Diathetic.*																																
Anæmia	1	2	..	..	..	..	1	1	2	..	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	18	21	39	.14
Cancer of Abdomen	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	4	.01
" of Breast	..	6	..	5	..	6	..	7	..	4	..	3	..	2	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	35	35	.13
" of Bladder	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	2	..	2	.008
" of Bowels	..	..	1	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	3	.01
" of Brain	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2	.008
" of Cervical Glands	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
" of Cæcum	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
" Epithelial	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2	.008
" " (Labia Majora)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	1	.004
" of Face	..	..	1	..	..	..	2	..	..	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	1	6	.02
" of Genitals	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
" General	..	..	..	..	..	2	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	4	.01
" of Hand	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
" of Intestines	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
" of Inguinal Gland	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	.008
" of Inferior Maxillary	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
" of Kidneys and Liver	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
" of Liver	1	2	1	3	3	5	7	8	3	3	1	7	..	1	2	1	1	2	..	1	..	..	..	..	..	..	..	..	20	35	55	.20
" of Leg	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
" of Lips	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
" of Lungs	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
" of Mesentery	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
" of Mouth	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
" of Neck	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2	.008
" Nasal and Frontal	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
" of Ovary	..	1	..	1	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	5	.02
" of Orbit	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
" of Œsophagus	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2	.008
" Omentum	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2	.008
" Peritoneum	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	.008

TABLE No. XIV.—*Continued.*

CONSOLIDATED ABSTRACT OF DEATHS IN NEW YORK FROM ALL CAUSES,

FOR THE TWELVE MONTHS ENDING DECEMBER 31st, 1871.

CAUSES OF DEATH.	NATIVITY. Un. States.		NATIVITY. Foreign.		Color'd		Under 1 Year.		1		2		3		4		Total Under 5 Years.		5		10		15		20		25		30	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
CLASS II.—CONSTITUTIONAL DISEASES.																														
Order 1.—*Diathetic.*																														
Cancer of Parotid	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" of Penis	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" of Rectum	1	2	3	7	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2
" Retroperitoneal	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" of Stomach	2	3	33	28	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" of Sup. Maxilla	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" of Salivary Glands	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" of Spleen	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
" of Sublingual Gland & Parotid	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" of Thyroid Gland	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" of Tongue and Mouth	..	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" of Uterus	..	28	..	69	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	4	..	10
" of Vesico Vaginal Septum	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fungus Hæmatodes	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total Cancerous Diseases	11	64	82	178	1	5	..	..	..	..	..	..	..	1	..	..	..	1	..	2	..	1	..	..	..	2	..	6	3	15
Dropsy	1	1	1	6	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..
Gout	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lupus Exedens	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Noma (Cancrum Oris)	4	3	..	..	..	..	2	2	1	1	..	..	..	..	..	..	3	3	1	..	..	..	..	..	..	..	..	..	..	..
Rheumatism	19	17	32	35	1	1	..	2	..	..	1	..	..	..	..	..	1	2	2	3	1	4	3	4	2	1	2	8	6	5
Total Diathetic Diseases	51	97	123	228	3	6	13	13	1	1	2	..	1	2	..	..	17	16	3	6	1	5	3	4	2	5	2	17	10	21
Order 2.—*Tubercular.*																														
Hydrocephalus & Tuberc. Meningitis	400	336	15	4	8	5	176	146	133	100	47	32	24	32	7	15	387	315	17	16	4	5	2	1	1	1	..	..	..	..
Lumbar and Psoas Abscess	4	2	4	3	..	..	..	..	..	..	..	..	1	.	..	..	1	..	1	..	1	1	..	..	2	1	1	..	1	..

TABLE No. XIV.—*Continued.*

CONSOLIDATED ABSTRACT OF DEATHS IN NEW YORK FROM ALL CAUSES,

For the Twelve Months ending December 31st, 1871.

Causes of Death.	35		40		45		50		55		60		65		70		75		80		85		90		95		100 and upwards.		Total by Sexes.		Total both Sexes.	Percent'ge of each Cause on Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M	F	M	F	M.	F.	M.	F.		
Class II.—CONSTITUTIONAL DISEASES.																																
Order 1.- *Diathetic.*																																
Cancer of Parotid	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
" of Penis	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	2	..	2	.008
" of Rectum	1	1	..	..	..	1	1	..	..	1	..	2	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	4	9	13	.05
" Retroperitoneal	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
" of Stomach	5	2	6	7	5	4	4	6	9	2	2	2	3	3	1	1	..	4	..	..	..	..	..	..	..	..	..	..	35	31	66	.24
" of Sup. Maxilla	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	004
" of Salivary Glands	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
" of Spleen	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
" of Sublingual Gland & Parotid	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
" of Thyroid Gland	..	..	..	..	1	..	..	..	..	..	..	.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
" of Tongue and Mouth	..	..	1	1	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	4	.01
" of Uterus	..	14	..	8	..	14	..	14	..	13	..	10	..	2	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	97	97	.36
" of Vesico Vaginal Septum	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
Fungus Hæmatodes	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2	.008
Total Cancerous Diseases	7	27	12	31	13	36	19	37	16	30	8	24	7	13	5	8	2	6	1	1	..	2	..	..	..	..	..	..	93	242	335	1.24
Dropsy	..	2	..	..	..	1	..	..	..	1	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	7	9	.03
Gout	..	..	2	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	..	4	.01
Lupus Exedens	..	..	..	..	..	..	.	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	2	..	2	.008
Noma (Cancrum Oris)	..	..	..	..	..	..	..	..	.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	3	7	.03
Rheumatism	5	9	4	1	3	3	8	2	2	2	1	2	7	3	2	1	1	2	1	..	..	..	..	..	..	..	..	..	51	52	103	.38
Total Diathetic Diseases	13	40	18	32	16	40	28	40	22	33	12	28	14	18	7	9	3	8	2	1	1	2	..	..	..	..	..	..	174	325	499	1.85
Order 2.—*Tubercular.*																																
Hydrocephalus & Tuberc. Meningitis	1	1	..	..	1	1	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	415	340	755	2.80
Lumbar and Psoas Abscess	..	1	..	..	..	..	..	..	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	5	13	.05

TABLE No. XIV.—*Continued.*

CONSOLIDATED ABSTRACT OF DEATHS IN NEW YORK FROM ALL CAUSES,

FOR THE TWELVE MONTHS ENDING DECEMBER 31ST, 1871.

CAUSES OF DEATH.	NATIVITY.				Color'd		Under 1 Year.		1		2		3		4		Total Under 5 Years.		5		10		15		20		25		30	
	Un. States.		Foreign.																											
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Phthisis Pulmonalis	783	678	1450	1275	78	47	39	35	40	29	23	13	5	9	4	7	111	93	24	16	23	31	99	110	244	240	323	339	293	248
Scrofula	35	25	3	2	..	..	19	13	2	3	2	..	1	2	3	3	27	21	7	1	1	1	..	1	..	1	..	..	2	1
Tabes Mesenterica and Marasmus	374	300	11	7	9	6	286	234	65	58	18	7	6	3	1	3	376	305	3	2	2	..	1	..	..	..	..	..	1	..
Other Tubercular & Strumous Dis's	22	19	9	3	..	..	6	8	10	6	4	..	1	1	..	1	21	16	1	2	..	1	1	..	1	..	2	..	2	1
Total Tubercular Diseases	1618	1360	1492	1294	95	58	526	436	250	196	94	52	38	37	15	29	923	750	53	37	31	39	103	112	248	243	326	339	299	250
Total from Constitutional Class	**1669**	**1457**	**1615**	**1522**	**98**	**64**	**589**	**449**	**251**	**197**	**96**	**52**	**39**	**39**	**15**	**29**	**940**	**766**	**56**	**43**	**32**	**44**	**106**	**116**	**250**	**248**	**328**	**356**	**309**	**271**
CLASS III.—LOCAL DISEASES.																														
Order 1.—*Nervous.*																														
Apoplexy	70	60	160	113	4	8	4	6	2	..	1	..	..	..	..	..	7	6	1	..	3	..	2	1	3	7	9	4	12	9
Abscess of Brain	..	1	3	2	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	1	..	..	..	..	1	..	..	1
Convulsions	380	318	6	9	9	6	302	257	54	44	14	16	6	2	7	1	383	320	3	6	..	..	..	..	..	..	..	..	..	..
Chorea	3	1	1	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	2	..	..	..	..	..	..	..	..	..	..	..
Congestion of Brain	84	59	18	11	2	1	40	21	14	14	7	3	3	7	1	5	65	50	3	2	6	1	2	3	2	2	3	3	3	3
Cerebro-Spinal Sclerosis	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Direct Effect of Solar Heat	4	2	13	2	..	..	..	1	..	1	..	..	1	..	..	..	1	2	1	..	..	..	..	..	1	..	2	..	1	1
Encephalitis	50	45	16	7	..	2	19	16	7	11	4	4	4	1	1	3	35	35	7	5	2	1	2	4	3	2	..	..	1	3
Epilepsy	31	31	12	27	4	..	2	..	1	2	..	1	..	..	..	..	3	3	1	2	2	1	5	11	11	10	1	6	5	4
Hernia Cerebri	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Hysteria from Fright	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Insanity	14	6	23	24	1	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	2	4	1	4	2	4	3
Laryngismus Stridulus	12	13	1	..	..	..	8	8	..	2	3	1	1	2	..	..	12	13	1	..	..	..	..	..	..	..	..	..	..	..
Myelitis	2	2	9	4	..	1	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	2	2	2
Meningitis (Cerebral)	288	264	41	30	5	2	123	107	68	64	26	31	11	11	15	13	243	226	25	27	8	6	6	5	7	7	5	3	7	1
" (Spinal),	12	12	10	5	..	..	7	8	4	1	2	1	..		..	..	13	10	2	..	1	1	1	1	..	1	3	..	..	1
" (Cerebro-Spinal, simple)	12	19	8	3	..	..	1	8	..	4	2	3	1	3	1	..	5	13	1	5	..	1	3	1	2	..	..	1	2	..
Neuralgia	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Paralysis	8	24	18	21	..	..	1	..	..	..	..	1	..	..	..	..	1	1	..	..	..	..	..	..	..	2	1	1	..	3
" —Hemiplegia	7	6	8	11	..	1	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	1	..	..	..
" —Paraplegia	2	1	5	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	..	1

TABLE No. XIV.—*Continued.*

CONSOLIDATED ABSTRACT OF DEATHS IN NEW YORK FROM ALL CAUSES,

For the Twelve Months ending December 31st, 1871.

Causes of Death.	35		40		45		50		55		60		65		70		75		80		85		90		95		100 and upwards		Total by Sexes.		Total both Sexes.	Percent'ge of each Cause on Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M	F	M	F	M.	F.	M.	F.		
Phthisis Pulmonalis	309	225	205	176	191	122	137	99	98	72	68	66	52	45	34	40	14	19	7	8	1	2	..	1	..	..	..	1	2233	1953	4186	15.52
Scrofula	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	38	27	65	.24
Tabes Mesenterica and Marasmus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	385	307	692	2.56
Other Tubercular & Strumous Dis's	..	1	1	1	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	31	22	53	.20
Total Tubercular Diseases	310	228	206	177	192	124	138	99	98	74	72	66	53	45	35	40	15	19	7	8	1	2	..	1	..	..	..	1	3110	2654	5764	21.38
Total from Constitutional Class	**323**	**268**	**224**	**209**	**208**	**164**	**166**	**139**	**120**	**107**	**84**	**94**	**67**	**63**	**42**	**49**	**18**	**27**	**9**	**9**	**2**	**4**	..	**1**	..	..	..	**1**	**3284**	**2979**	**6263**	**23.22**
Class III.—LOCAL DISEASES.																																
Order 1.—*Nervous.*																																
Apoplexy	7	4	16	16	26	10	20	15	24	19	29	14	29	26	23	18	10	7	5	11	..	3	3	2	..	..	1	1	230	173	403	1.50
Abscess of Brain	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	3	6	.02
Convulsions	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	386	327	713	2.64
Chorea	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	1	5	.02
Congestion of Brain	4	..	2	3	5	..	1	1	2	1	..	1	2	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	102	70	172	.64
Cerebro-Spinal Sclerosis	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Direct Effect of Solar Heat	4	..	2	..	3	..	1	1	..	..	..	.	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	17	4	21	.08
Encephalitis	3	1	3	1	1	..	4	..	1	..	2	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	.	66	52	118	.44
Epilepsy	1	4	4	8	3	4	2	..	..	1	2	2	2	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	43	58	101	.37
Hernia Cerebri	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Hysteria from Fright	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	.	..	..	..	..	..	..	..	..	..	..	1	1	.004
Insanity	5	3	3	4	2	2	8	4	..	..	3	1	4	2	..	3	..	2	..	..	..	..	..	..	..	..	..	..	37	30	67	.25
Laryngismus Stridulous	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	13	13	26	.10
Myelitis	2	..	2	..	2	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	11	6	17	.06
Meningitis (Cerebral)	2	3	9	2	2	4	4	1	3	2	4	4	2	1	1	1	1	..	..	1	..	..	..	..	..	..	..	..	329	294	623	2.31
" (Spinal)	..	..	1	1	1	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	22	17	39	.14
" (Cerebro-Spinal, simple)	3	..	..	..	4	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	20	22	42	.16
Neuralgia	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Paralysis	2	2	2	5	3	..	2	4	4	3	4	4	2	3	3	4	1	3	1	5	..	4	..	..	..	..	..	1	26	45	71	.26
" —Hemiplegia	..	..	2	..	1	1	2	1	1	4	2	1	1	2	2	2	2	1	1	2	..	..	..	1	..	..	..	..	15	17	32	.12
" —Paraplegia	..	..	1	..	..	2	..	1	..	..	1	..	2	..	..	2	..	..	..	..	1	..	..	..	..	..	..	..	7	7	14	.05

TABLE No. XIV.—*Continued.*

CONSOLIDATED ABSTRACT OF DEATHS IN NEW YORK FROM ALL CAUSES,

FOR THE TWELVE MONTHS ENDING DECEMBER 31ST, 1871.

CAUSES OF DEATH.	NATIVITY. Un. States.		NATIVITY. Foreign.		Colored.		Under 1 Year.		1		2		3		4		Total Under 5 Years.		5		10		15		20		25		30	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Softening of Brain	31	19	51	27	1	..	..	..	..	..	2	..	..	..	..	..	2	..	1	..	..	..	..	1	2	..	3	5	7	2
Sclerosis " "	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tetanus (Idiopathic)	5	2	6	8	..	..	3	1	1	..	..	..	..	..	..	..	4	1	1	1	..	..	1	..	..	1	1	1	2	1
Trismus Nascentium	28	19	..	..	..	..	28	19	..	..	..	..	..	..	..	..	28	19	..	..	..	..	..	..	..	..	..	..	..	..
Tumor of Brain	2	2	3	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	1
Tabes Dorsalis	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Total Dis. of Nervous System	1046	907	416	308	26	21	540	447	151	144	62	63	27	26	25	22	805	702	49	49	22	14	22	29	35	33	38	29	46	36
Order 2.—*Circulatory.*																														
Aneurism of Aorta	16	6	32	6	3	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	1	1	..	5	4	8	1
" Cœliac Axis	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
" Innominata & Subclavian	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Subclavian	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
" Anterior Tibial	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Thoracic	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Basilar Artery	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
Epistaxis	1	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..
Embolism	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Heart Dis. (Otherwise Unspecified)	13	9	33	28	1	1	1	1	..	..	..	..	..	1	..	..	1	2	..	..	..	2	1	1	1	3	5	3	4	4
" —Aneurism of	1	2	2	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	1	..	..	..
" —Angina Pectoris	2	..	4	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
" —Endocarditis	3	5	6	3	..	1	..	..	..	..	..	..	..	..	..	1	..	1	1	..	1	3	2	..	..	..	2	1	1	1
" —Fatty Degeneration	10	8	17	21	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
" —Hypertrophy	20	31	44	47	1	1	..	1	1	..	..	..	..	..	..	2	1	3	1	4	1	4	2	5	4	2	5	4	2	6
" Ossification	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Pericarditis	29	24	29	19	3	1	..	1	..	..	..	..	1	4	2	1	3	6	2	3	8	5	2	4	2	2	4	3	9	1
" Syncope	1	..	..	2	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..
" Valvular	91	62	135	107	6	2	1	1	2	..	2	..	..	..	3	..	8	1	8	6	13	8	12	9	11	13	13	14	21	10
Phlebitis	6	..	..	1	..	..	2	..	..	..	..	..	..	..	..	..	2	..	2	..	..	..	1	..	..	..	..	..	..	..
Stenosis Aortæ	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..
Thrombosis of Pulm. Artery	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" " Crural & Iliac Vein	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total Dis. of Circulatory System	196	151	306	241	14	8	5	5	4	..	2	..	1	5	5	4	17	14	15	13	24	22	21	21	19	24	37	29	46	24

TABLE No. XIV.—*Continued.*

CONSOLIDATED ABSTRACT OF DEATHS IN NEW YORK FROM ALL CAUSES,

FOR THE TWELVE MONTHS ENDING DECEMBER 31ST, 1871

CAUSES OF DEATH.	35		40		45		50		55		60		65		70		75		80		85		90		95		100 and upw'ds		Total by Sexes.		Total both Sexes.	Percent'ge of each Cause on Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M	F	M	F	M	F	M	F	M	F	M.	F.		
Softening of Brain	3	1	5	5	7	3	6	4	8	6	10	3	13	5	10	2	1	2	3	5	1	1	..	..	..	1	..	..	82	46	128	.47
Sclerosis " "	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Tetanus (Idiopathic)	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	11	5	16	.06
Trismus Nascentium	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..	..	28	19	47	.18
Tumor of Brain	1	1	..	..	2	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	5	4	9	.03
Tabes Dorsalis	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2	.008
Total Diseases of Nervous System.	39	19	54	46	65	29	53	33	44	37	57	31	59	42	41	32	15	15	12	24	2	9	3	3	..	1	1	2	1462	1215	2677	9.92
Order 2.—*Circulatory.*																																
Aneurism of Aorta	8	1	7	1	4	1	7	1	6	1	..	..	1	..	1	1	1	..	..	..	..	..	..	..	..	..	..	..	48	12	60	.22
" Cœliac Axis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
" Innominata & Subclavian	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2	.008
" Subclavian	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
" Anterior Tibial	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
" Thoracic	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	1	2	.008
" Basilar Artery	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Epistaxis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2	.008
Embolism	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	.008
Heart Dis. (Otherwise Unspecified)	5	3	1	2	5	2	8	3	3	1	6	2	2	2	3	2	1	2	..	2	..	1	..	..	..	..	..	..	46	37	83	.31
" —Aneurism of	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	2	5	.02
" —Angina Pectoris	1	..	..	..	..	..	1	..	..	..	..	..	1	..	2	..	..	1	..	..	..	1	..	..	..	..	..	..	6	2	8	.03
" —Endocarditis	..	1	..	..	..	..	..	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9	8	17	.06
" —Fatty Degeneration	1	4	4	3	4	2	2	2	3	3	5	6	4	2	4	4	..	1	..	..	..	1	..	..	..	..	..	..	27	29	56	.21
" —Hypertrophy	3	4	4	7	7	10	7	12	10	6	8	5	3	2	3	1	2	2	..	..	1	1	..	..	..	..	..	..	64	78	142	.53
" —Ossification	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
" —Pericarditis	8	5	3	5	6	1	2	5	4	2	2	1	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	58	43	101	.37
" —Syncope	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	3	.01
" —Valvular	19	15	21	18	25	13	15	12	18	7	13	13	6	12	14	9	8	5	1	4	..	..	..	..	..	..	..	..	226	169	395	1.46
Phlebitis	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	1	7	.03
Stenosis Aortæ	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	.008
Thrombosis of Pulm. Artery	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
" Crural & Iliac Vein	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Total Dis. of Circulatory System	47	35	42	37	51	30	43	36	44	21	34	27	19	19	28	18	13	11	1	7	1	4	..	..	..	..	..	..	502	392	894	3.28

TABLE No. XIV.—*Continued.*

CONSOLIDATED ABSTRACT OF DEATHS IN NEW YORK FROM ALL CAUSES,

For the Twelve Months ending December 31st, 1871.

Causes of Death.	Nativity.				Color'd		Under 1 Year.		1		2		3		4		Total Under 5 Years.		5		10		15		20		25		30	
	Un. States.		Foreign.																													
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Order 3.—*Respiratory.*																																
Abscess of Trachea	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Bronchitis	387	376	105	96	4	6	259	238	79	67	23	29	7	7	5	8	373	349	12	6	..	..	2	2	1	3	3	1	5	3
Congestion of Lungs	62	48	22	16	4	1	40	24	8	7	5	4	..	4	..	1	53	40	8	2	..	1	2	1	1	2	..	..	1	1
Emphysema and Asthma	17	5	24	33	2	1	2	..	1	..	1	..	..	..	..	..	4	..	..	..	1	..	..	..	2	..	1	1	1	2
Gangrene of Lungs	2	1	3	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	2	1	1
Hemorrhage "	8	..	8	4	..	..	1	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	2	..	2	..	1	..	2	..
Laryngitis	35	32	15	4	..	..	10	5	18	8	4	8	2	5	1	4	35	30	2	2	..	1	..	..	..	..	1	1	1	..
Œdema Glottidis	3	..	2	1	..	..	..	..	1	..	2	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	1	..	1	..
Post-Laryngeal Abscess	2	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..
Pneumonia	628	564	394	248	18	20	251	228	153	116	60	52	29	25	13	25	506	446	20	30	8	9	11	14	24	18	37	30	41	32
Pleuritis	20	12	15	12	4	1	1	4	4	..	..	2	..	..	..	..	5	6	1	..	..	..	2	1	2	1	2	..	5	..
" Hydrothorax	6	4	10	7	..	..	..	1	..	..	1	..	..	1	..	..	1	2	2	..	1	..	1	..	..	..	..	1	2	1
" Empyema	1	2	8	1	..	..	..	1	..	..	..	..	..	..	..	..	..	1	1	..	..	..	1	..	2	..	1	1	..	..
Tumor of Larynx	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total Dis. of Respiratory System	1172	1044	607	425	32	29	565	501	265	198	97	95	38	42	19	38	984	874	42	40	11	11	21	18	35	24	47	37	60	40
Order 4.—*Digestive.*																																
Abscess of Parotid	1	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
" Pharynx	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Abdomen	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Sub-Maxillary Gland	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
" Bowels	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Liver	4	2	2	1	..	1	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..
" Post-Pharyngeal	1	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..
Ascites	1	6	..	1	..	1	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	1	..	..	..	..
Atrophy of Liver	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Colic	8	6	3	3	..	..	6	5	..	..	..	..	..	..	..	1	6	6	..	..	..	..	1	..	1	..	..	..	1	..
Congestion of Liver	2	1	1	1	..	..	2	1	..	..	..	..	..	..	..	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..
Cirrhosis "	19	8	58	65	1	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	2	5	3	6
Dyspepsia	..	5	5	3	..	..	..	3	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	1	..	..	..
Enteritis, (not Diarrhœal)	42	29	15	24	1	1	18	10	8	7	..	2	..	..	..	..	26	19	4	3	2	1	1	3	2	..	4	1	2	4

TABLE No. XIV.—*Continued.*

CONSOLIDATED ABSTRACT OF DEATHS IN NEW YORK FROM ALL CAUSES,

FOR THE TWELVE MONTHS ENDING DECEMBER 31ST, 1871.

CAUSES OF DEATH.	35		40		45		50		55		60		65		70		75		80		85		90		95		100 and upwards		Total by Sexes.		Total both Sexes.	Percent'ge of each Cause on Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M	F	M	F	M.	F.	M.	F.		
Order 3.—*Respiratory.*																																
Abscess of Trachea	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Bronchitis	4	5	3	3	5	9	8	5	8	12	9	10	20	14	17	20	10	9	8	14	3	5	..	1	1	1	..	..	492	472	964	3.57
Congestion of Lungs	..	2	6	2	1	2	3	1	5	2	2	..	2	1	1	1	2	2	1	3	1	..	..	1	..	..	..	..	84	64	148	.55
Emphysema and Asthma	1	1	3	1	5	2	7	5	1	3	9	3	2	8	..	8	3	2	..	2	1	..	..	..	..	..	..	..	41	38	79	.29
Gangrene of Lungs	..	..	..	..	..	1	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	4	9	.03
Hemorrhage "	2	1	1	1	2	1	1	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	16	4	20	.07
Laryngitis	2	1	3	..	2	..	1	1	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	50	36	86	.32
Œdema Glottidis	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	1	6	.02
Post-Laryngeal Abscess	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2	.008
Pneumonia	50	25	55	19	54	19	41	27	49	28	33	31	23	35	39	25	14	14	8	8	3	2	1	..	..	..	..	..	1022	812	1834	6.80
Pleuritis	5	1	..	..	1	1	1	4	2	2	6	2	1	4	1	..	1	..	..	1	..	1	..	..	..	..	..	..	35	24	59	.22
" Hydrothorax	..	..	..	..	1	..	..	1	..	..	3	1	1	3	2	1	1	1	1	..	..	..	..	..	..	..	..	..	16	11	27	.10
" Empyema	3	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9	3	12	.04
Tumor of Larynx	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Total Dis. of Respiratory System	67	37	71	27	71	35	64	44	68	47	63	47	56	65	60	55	31	29	18	28	8	8	1	2	1	1	..	..	1779	1469	3248	12.04
Order 4.—*Digestive.*																																
Abscess of Parotid	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2	.008
" Pharynx	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
" Abdomen	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
" Sub-Maxillary Gland	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
" Bowels	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
" Liver	..	..	..	1	2	..	2	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	6	3	9	.03
" Post-Pharyngeal	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2	.008
Ascites	..	..	..	1	..	1	..	..	..	..	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	7	8	.03
Atrophy of Liver	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	2	1	3	.01
Colic	..	..	1	..	..	1	..	..	..	1	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	11	9	20	.07
Congestion of Liver	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	2	5	.02
Cirrhosis "	7	11	8	11	13	11	10	9	10	7	16	2	1	4	5	4	2	1	..	..	..	..	..	..	..	..	..	..	77	73	150	.55
Dyspepsia	..	..	1	1	..	..	1	..	..	..	..	1	1	1	1	1	..	..	..	..	..	1	..	..	..	..	..	..	5	8	13	.05
Enteritis, (not Diarrhœal)	4	..	2	5	4	4	1	1	1	2	1	2	2	2	..	1	1	2	..	2	..	1	..	..	..	..	..	..	57	53	110	.41

TABLE No. XIV.—*Continued.*

CONSOLIDATED ABSTRACT OF DEATHS IN NEW YORK FROM ALL CAUSES,

FOR THE TWELVE MONTHS ENDING DECEMBER 31ST, 1871.

CAUSES OF DEATH.	NATIVITY. Un. States.		NATIVITY. Foreign.		Colored.		Under 1 Year.		1		2		3		4		Total Under 5 Years.		5		10		15		20		25		30	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Fatty Degeneration of Liver	1	1	9	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1
Fistula in Ano	1	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Gangrene of Mouth	1	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	.	1	..	..	..	..	1	..	..	..	..	..	..	..
" Intestines	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Gastromalacia	..	4	2	..	..	..	..	3	..	..	..	..	..	..	..	..	..	3	1	1	..	..	..	..	..	..	..	..	..	..
Gastritis	31	42	28	31	1	1	15	16	2	5	2	4	2	3	1	..	22	28	2	..	1	..	..	1	1	3	4	4	2	4
Gastro-Enteritis, (not Diarrhœal)	31	28	7	12	..	1	19	21	3	2	..	..	..	1	..	..	22	24	1	..	2	..	2	..	..	..	2	..	1	2
Gall Stones	..	2	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Hæmatemesis	1	2	4	3	1	..	1	1	..	..	..	..	..	..	.	..	1	1	..	.	..	..	..	1	1	..	..	..	..	..
Hernia, (Strangulated)	8	2	14	10	..	..	1	2	..	..	..	..	..	..	..	..	1	2	..	..	..	..	..	..	..	..	1	1	1	3
Hemorrhage of Bowels	5	1	1	2	..	..	2	..	1	..	..	..	..	..	..	..	3	..	1	..	..	..	..	..	..	..	..	..	..	..
Hepatitis	19	14	26	32	..	1	6	3	1	..	..	1	..	..	..	..	7	4	2	..	..	..	..	1	..	1	..	3	5	1
Hypertrophy of Liver	8	5	7	10	..	..	3	2	..	..	..	..	..	..	..	..	3	2	..	..	..	..	..	..	1	..	1	..	1	..
" Spleen	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hæmorrhoides	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Intussusception of Intestines	7	8	10	3	..	1	5	6	..	..	..	..	1	..	..	..	6	6	2	..	..	..	1	..	.	1	..	..	..	..
Inflammat'n of Sub-Maxillary Gland	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Jaundice	26	14	3	2	..	..	25	11	..	..	..	1	..	1	..	..	25	13	..	..	..	..	..	1	..	.	..	..	..	..
Leucocythemia	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..
Over-distention of Stomach	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.	..	1	..	..	..	..	..	..
Obs't'n of Ductus Com. Choledocus	..	2	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	.	.	..	..	..	..	..	..	..	..
Pharyngitis	3	2	..	..	..	..	3	1	..	1	..	..	..	..	..	..	3	2	..	..	..	..	..	..	..	..	..	..	..	..
Peritonitis	45	30	34	45	..	1	11	4	1	1	1	..	3	1	..	..	16	6	7	6	4	5	6	1	10	9	10	5	6	8
Perforation of Verm. Appendix	1	2	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	1	..	..	..	..	1	.	..
Prolapsus of Rectum	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	.	.	..	..	..	..	..	.	.
Rupture of Gall Bladder	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.	.	..	..	..	..	..	..	..	
Stricture of Œsophagus	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.	..	..	..	..	..	..	..	..	
" Intestines	1	2	1	..	..	..	1	1	..	..	..	..	..	..	..	.	1	1	..	..	..	..	..	.	..	..	..	..	..	.
" Rectum	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	.	..	..	..	..	..	..	..	.	..	..	..	..	..	1
Stomatitis	7	13	..	1	..	..	5	8	..	4	1	..	..	..	..	..	6	12	..	..	..	.	1	.	..	..	..	..	..	.
Tumor of Spleen	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.	..	..	.	..	..	..	..	..	..
" Liver	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.	..	..	..	..	.	1
Ulceration of Œsophagus	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	.	..	..	..	..	..	.
" Intestines	4	6	4	3	..	..	..	3	1	1	..	1	..	..	..	..	1	5	..	..	1	1	..	..	..	1	..	.	1	.

TABLE No. XIV.—*Continued.*

CONSOLIDATED ABSTRACT OF DEATHS IN NEW YORK FROM ALL CAUSES,

For the Twelve Months ending December 31st, 1871.

Causes of Death.	35		40		45		50		55		60		65		70		75		80		85		90		95		100 and upw'ds		Total by Sexes.		Total both Sexes.	Percent'ge of each Cause on Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M	F	M	F	M	F	M	F	M	F	M.	F.		
Fatty Degeneration of Liver	1	4	1	1	..	1	2	1	2	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10	8	18	.07
Fistula in Ano	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	2	..	2	.008
Gangrene of Mouth	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2	.008
" Intestines	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	1	2	.008
Gastromalacia	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	4	6	.02
Gastritis	4	3	2	8	2	5	2	1	5	5	4	1	2	4	5	2	..	2	1	..	..	2	..	..	..	..	..	..	59	73	132	.50
Gastro-Enteritis, (not Diarrhœal)	3	2	..	1	..	1	..	2	1	2	1	2	..	2	2	1	..	..	..	1	..	..	1	..	..	..	..	..	38	40	78	.28
Gall Stones	..	..	1	..	..	..	..	..	..	1	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	2	3	5	.02
Hæmatemesis	1	1	..	..	..	..	1	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	5	5	10	.04
Hernia, (Strangulated)	1	..	3	..	2	..	1	1	1	1	..	3	1	..	4	..	1	..	..	1	..	..	..	..	..	..	..	..	17	12	29	.11
Hemorrhage of Bowels	..	..	1	..	..	..	..	..	..	2	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	6	3	9	.08
Hepatitis	4	1	4	3	5	7	8	4	2	1	4	6	1	3	3	4	..	5	..	1	..	1	..	..	..	..	..	..	45	46	91	.34
Hypertrophy of Liver	1	2	2	2	1	2	1	1	..	..	4	1	..	1	..	4	..	..	..	..	..	..	..	..	..	..	..	..	15	15	30	.11
" Spleen	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
Hæmorrhoides	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Intussusception of Intestines	2	2	2	..	..	..	..	..	..	1	2	1	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	17	11	28	.10
Inflammat'n of Sub-Maxillary Gland	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
Jaundice	1	1	..	..	1	..	1	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	29	16	45	.17
Leucocythemia	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	3	.01
Over-distention of Stomach	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
Obs't'n of Ductus Com. Choledocus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	2	2	.008
Pharyngitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	2	5	.02
Peritonitis	6	7	3	6	4	6	2	3	1	3	1	4	1	1	..	4	2	1	..	..	..	..	..	..	..	..	..	..	79	75	154	.57
Perforation of Verm. Appendix	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	3	.01
Prolapsus of Rectum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Rupture of Gall Bladder	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
Stricture of Œsophagus	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
" Intestines	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	4	.01
" Rectum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
Stomatitis	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	14	21	.08
Tumor of Spleen	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
" Liver	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
Ulceration of Œsophagus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
" Intestines	1	..	..	2	1	..	..	..	2	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	9	17	.06

TABLE No. XIV.—*Continued.*

CONSOLIDATED ABSTRACT OF DEATHS IN NEW YORK FROM ALL CAUSES,

FOR THE TWELVE MONTHS ENDING DECEMBER 31ST, 1871.

CAUSES OF DEATH.	NATIVITY.				Color'd		Under 1 Year.		1		2		3		4		Total Under 5 Years.		5		10		15		20		25		30	
	Un. States.		Foreign.																											
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Ulceration of Rectum	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Ulcer of the Stomach	3	2	6	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Total Dis's of Digestive System	283	250	249	270	4	8	125	105	18	21	5	11	6	8	1	1	155	146	21	10	10	8	16	10	18	18	26	22	24	33
Order 5.—*Urinary.*																														
Addison's Disease	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Abscess of Kidneys	2	2	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	1	1
" Prostate	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
" Peri-Vesical	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Congestion of Kidneys	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Cystitis	7	1	11	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..
Calculus	1	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diabetes	8	5	8	4	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	1	1	..	1	1	..	..	3	1	4	1
Extravasation of Urine	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gangrene of Bladder	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hemorrhage from Bladder	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Haematuria	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Nephria (Bright's Disease)	190	137	311	309	13	24	2	1	3	2	9	1	3	2	4	..	21	6	7	4	7	10	6	7	23	26	32	44	35	44
Nephritis	28	14	25	16	1	..	3	..	2	..	2	1	1	1	1	3	9	5	11	1	..	1	..	..	2	2	5	3	1	3
Pyleitis	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Prostatitis	1	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rupture of Bladder	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
" Urethra	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
Retention of Urine	..	.	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Suppression "	1	..	1	1	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Stricture of Urethra	1	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Urethral Fever	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Uremia	12	6	19	11	..	..	..	2	..	..	..	..	..	1	2	..	2	3	..	..	..	1	..	..	2	..	2	1	1	1
Total Dis. of Urinary System	260	166	394	343	14	25	7	3	5	2	11	2	5	4	7	3	35	14	19	6	8	13	7	8	28	28	45	50	44	50

TABLE No. XIV.—*Continued.*

CONSOLIDATED ABSTRACT OF DEATHS IN NEW YORK FROM ALL CAUSES,

For the Twelve Months ending December 31st, 1871.

Causes of Death.	35		40		45		50		55		60		65		70		75		80		85		90		95		100 and upwards.		Total by Sexes.		Total both Sexes.	Percent'ge of each Cause on Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M	F	M	F	M.	F.	M.	F.		
Ulceration of Rectum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
Ulcer of the Stomach	1	..	..	2	1	1	2	2	2	1	1	..	..	1	1	..	..	..	..	..	1	..	..	..	..	..	..	..	9	9	18	.07
Total Dis's of Digestive System.	38	35	34	44	37	41	35	30	29	27	37	29	15	20	24	23	9	13	1	5	1	6	2	..	..	..	..	..	532	520	1052	3.90
Order 5.—*Urinary.*																																
Addison's Disease	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Abscess of Kidneys	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	3	5	.02
" Prostate	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	2	..	2	.008
" Peri-Vesical	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Congestion of Kidneys	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2	.008
Cystitis	..	..	1	..	..	..	..	..	4	..	2	..	2	..	4	1	1	1	1	..	1	..	..	..	..	..	..	..	18	2	20	07
Calculus	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	3	.01
Diabetes	1	..	1	..	1	..	2	..	..	1	..	..	..	1	..	1	..	1	1	1	..	..	..	..	..	..	..	..	16	9	25	.09
Extravasation of Urine	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2	.008
Gangrene of Bladder	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Hemorrhage from Bladder	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2	.008
Haematuria	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Nephria (Bright's Disease)	56	55	57	45	59	51	44	49	43	32	38	27	34	21	21	11	11	6	5	6	2	1	..	..	..	1	..	..	501	446	947	3.51
Nephritis	2	1	4	3	3	2	2	4	5	3	3	..	3	..	1	..	1	1	1	1	..	..	..	..	..	..	..	..	53	30	83	.31
Pyletis	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	3	.01
Prostatitis	..	..	..	..	..	..	1	..	..	..	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	4	..	4	.01
Rupture of Bladder	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
" Urethra	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2	.008
Retention of Urine	..	..	1	..	..	..	..	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Suppression "	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	2	1	3	.01
Stricture of Urethra	..	..	..	..	1	..	..	..	..	..	1	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	..	5	.02
Urethral Fever	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Uremia	4	3	4	3	5	1	5	..	2	1	1	3	1	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	31	17	48	.18
Total Dis. of Urinary System	63	59	68	51	71	55	57	53	56	37	50	30	47	22	29	14	15	9	9	8	3	1	..	..	..	1	..	..	654	509	1163	4.31

TABLE No. XIV.—*Continued.*

CONSOLIDATED ABSTRACT OF DEATHS IN NEW YORK FROM ALL CAUSES

For the Twelve Months ending December 31st, 1871.

Causes of Death.	Nativity.				Colored.		Under 1 Year.		1		2		3		4		Total Under 5 Years.		5		10		15		20		25		30	
	Un. States.		Foreign.																											
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Order 6.—*Generative.*																														
Abscess of Uterus	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fibroid Tumor of Uterus	..	4	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Fibro-Cystic "	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hemorrhage of Uterus (passive)	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Metritis, (non-puerperal)	..	1	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	2
Metro-Peritonitis "	..	3	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	1	..	1
Ovaritis	..	..	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Ovarian Tumor	..	5	..	9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	1
" Dropsy	..	2	..	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Prolapsus Uteri	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Strangulation of Prolapsed Uterus	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Ulceration of Vulva	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Total Dis. of Generative System.	..	18	..	34	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	6	..	4	..	7
Order 7.—*Locomotory and Osseous.*																														
Arthritis	1	..	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
Abscess Gluteal	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..
" of Sacrum	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
" of Hip	1	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..
" of Knee	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
" of Pelvis	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" of Thigh	4	2	..	..	..	..	..	1	1	..	..	1	..	..	..	..	1	2	..	..	..	..	..	..	..	..	..	..	..	..
Cellulitis "	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Pelvic	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cysto-Sarcoma	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Caries	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
" of Lumbar Vertebræ	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Spine	5	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1	..	..	..	1	..	..	..	..	..	1	..
" Mastoid Bone	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
" Ribs	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..

TABLE No. XIV.—*Continued.*

CONSOLIDATED ABSTRACT OF DEATHS IN NEW YORK FROM ALL CAUSES,

FOR THE TWELVE MONTHS ENDING DECEMBER 31ST, 1871.

CAUSES OF DEATH.	35		40		45		50		55		60		65		70		75		80		85		90		95		100 and upw'ds		Total by Sexes.		Total both Sexes.	Percent'ge of each Cause on Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M	F	M	F	M	F	M	F	M	F	M.	F.		
Order 6.—*Generative.*																																
Abscess of Uterus	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
Fibroid Tumor of Uterus	..	1	..	4	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	8	.03
Fibro-Cystic " "	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
Hemorrhage of Uterus (passive)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
Metritis, (non-puerperal)	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	5	.02
Metro-Peritonitis "	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	7	.03
Ovaritis	..	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	4	.01
Ovarian Tumor	..	1	..	..	..	3	..	3	..	1	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	14	14	.05
" Dropsy	..	1	..	..	..	..	..	1	..	2	..	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	8	8	.03
Prolapsus Uteri	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	1	.004
Strangulation of Prolapsed Uterus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
Ulceration of Vulva	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
Total Dis. of Generative System.	..	6	..	8	..	5	..	5	..	3	..	4	..	1	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	52	52	.19
Order 7.—*Locomotory and Osseous.*																																
Arthritis	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	2	2	4	.01
Abscess Gluteal	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	4	..	4	.01
" of Sacrum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
" of Hip	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2	.008
" of Knee	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
" of Pelvis	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2	.008
" of Thigh	..	..	2	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	2	6	.02
Cellulitis "	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
" Pelvic	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Cysto-Sarcoma	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Caries	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2	.008
" of Lumbar Vertebræ	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
" Spine	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	..	6	.02
" Mastoid Bone	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
" Ribs	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004

TABLE No. XIV.—*Continued.*

CONSOLIDATED ABSTRACT OF DEATHS IN NEW YORK FROM ALL CAUSES,

FOR THE TWELVE MONTHS ENDING DECEMBER 31ST, 1871.

CAUSES OF DEATH.	NATIVITY.				Color'd		Under 1 Year.		1		2		3		4		Total Under 5 Years.		5		10		15		20		25		30	
	Un. States.		Foreign.																											
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Caries of Femur	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
" Ankle	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
" Ilium	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Gangrene of Leg and Foot	2	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
" "	2	..	2	2	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
" Toes	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Hip Disease	19	8	2	1	1	..	..	..	1	..	1	..	1	..	3	..	6	..	10	4	3	3	1	1	1	..	..	1	..	..
Necrosis	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
" of Ilium	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
" Femur	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Pelvis and Femu	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
" "	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
" Sacrum	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
" Tibia	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..
" Jaw	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
" Orbital Bone	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
Osteo-Myelitis	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
" Sarcoma	..	1	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
" " of Leg and Jaw	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ostitis-Tarsal	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Synovitis	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
" of Knee	1	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..
" of Ankle	1	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..
Spinal Disease	9	9	3	2	1	..	..	..	..	1	3	2	2	..	1	1	6	4	1	2	3	2	2	1	..	1	..	..	..	..
Total Locom. and Osseous Dis.	57	29	24	17	2	1	1	2	3	2	5	4	5	..	4	1	18	9	14	6	8	6	8	4	5	1	3	6	2	2
Order 8.—*Integumentary.*																														
Abscess	1	3	..	..	..	..	1	3	..	..	..	..	..	..	..	..	1	3	..	..	..	..	..	..	..	..	..	..	..	..
" of Breast	..	3	..	1	..	..	..	1	..	1	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	1	..	..
" Back	1	..	2	..	..	..	..	..	..	..	1	..	1	..	..	..	2	..	..	..	..	..	..	..	..	..	1	..	..	..
" Neck	2	1	1	1	..	..	2	1	..	..	..	..	..	..	..	..	2	1	..	..	..	..	..	..	..	1	..	..	..	..

TABLE No. XIV.—*Continued.*

CONSOLIDATED ABSTRACT OF DEATHS IN NEW YORK FROM ALL CAUSES,

For the Twelve Months ending December 31st, 1871.

Causes of Death.	35		40		45		50		55		60		65		70		75		80		85		90		95		100 and upwards.		Total by Sexes.		Total both Sexes.	Percent'ge of each Cause on Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M	F	M	F	M.	F.	M.	F.		
Caries of Femur	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
" Ankle	..	..	..	..	..	..	..	..	.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.	..	..	1	..	1	.004
" Ilium	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
Gangrene of Leg and Foot	1	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	4	.01
" "	..	..	1	1	..	..	1	..	..	.	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	4	2	6	.02
" Toes	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Hip Disease	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	21	9	30	.11
Necrosis	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2	.008
" of Ilium	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	.008
" Femur	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2	.008
" Pelvis and Femur	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
" "	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
" Sacrum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
" Tibia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2	.008
" Jaw	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
" Orbital Bone	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Osteo-Myelitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
" Sarcoma	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	.008
" " of Leg and Jaw	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Ostitis-Tarsal	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
Synovitis	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	.	..	..	..	..	..	..	..	..	..	..	..	1	1	2	.008
" of Knee	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	3	4	.01
" Ankle	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2	.008
Spinal Disease	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	12	11	23	.08
Total Locom. and Osseous Dis.	1	3	4	4	7	2	6	..	1	1	1	.	1	..	..	..	1	2	1	..	..	..	..	..	.	..	..	..	81	46	127	.47
Order 8.—*Integumentary.*																																
Abscess	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	3	4	.01
" of Breast	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	4	4	.01
" Back	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	3	.01
" Neck	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	2	5	.02

TABLE No. XIV.—*Continued.*

CONSOLIDATED ABSTRACT OF DEATHS IN NEW YORK FROM ALL CAUSES,

FOR THE TWELVE MONTHS ENDING DECEMBER 31ST, 1871.

CAUSES OF DEATH.	NATIVITY.				Colo'd		Under 1 Year.		1		2		3		4		Total Under 5 Years.		5		10		15		20		25		30	
	Un. States.		Foreign.																											
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Abscess of Scalp	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
" Hand	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Cellulitis of Scrotum	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
Eczema	4	1	..	..	..	..	4	1	..	..	..	..	..	..	..	..	4	1	..	..	..	..	..	..	..	..	..	..	..	..
" of Scalp	..	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Erythema	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Furuncles	1	1	..	..	..	..	1	1	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..
" of Nates	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gangrene of Neck	1	..	..	1	1	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
" of Nose	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Impetigo Capitis	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Pemphigus	3	1	..	..	..	..	3	1	..	..	..	..	..	..	..	..	3	1	..	..	..	..	..	..	..	..	..	..	..	..
Porrigo	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Psoriasis	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tumor of Neck	2	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
" " (Adipose)	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Breast	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ulcer of Leg	..	1	3	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Scrotum	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Total Integumentary Diseases	23	15	7	6	1	..	18	10	1	1	1	..	1	..	..	..	21	11	..	..	..	..	1	..	..	1	1	1	..	..
Order 9.—*Diseases of the Ear.*																														
Abscess of Ear	2	1	..	..	..	1	..	1	..	..	2	..	..	..	..	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..
Otitis	5	2	1	1	..	..	..	1	..	..	1	..	1	..	1	..	3	1	1	2	..	..	1	..	..	..	..	..	..	..
Otorrhœa	1	2	..	1	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	2	..	..	..	..	..	..	..	..	..	1
Total Diseases of the Ear	8	5	1	2	..	1	..	2	..	..	4	..	1	..	1	..	6	2	1	4	..	..	1	..	..	..	..	..	..	1
Total Local Class	3045	2585	2004	1646	98	98	1261	1075	447	368	187	176	84	85	62	69	2041	1773	161	128	82	74	97	90	140	185	197	178	222	198

TABLE No. XIV.—*Continued.*

CONSOLIDATED ABSTRACT OF DEATHS IN NEW YORK FROM ALL CAUSES,

For the Twelve Months ending December 31st, 1871.

Causes of Death.	35		40		45		50		55		60		65		70		75		80		85		90		95		100 and upw'ds		Total by Sexes.		Total both Sexes.	Percent'ge of each Cause on Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M	F.	M.	F.	M	F	M	F	M	F	M	F	M.	F.		
Abscess of Scalp	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
" Hand	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Cellulitis of Scrotum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Eczema	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	1	5	.02
" of Scalp	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	2	2	.008
Erythema	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Furuncles	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2	.008
" of Nates	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Gangrene of Neck	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2	.008
" of Nose	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
Impetigo Capitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Pemphigus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	1	4	.01
Porrigo	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Psoriasis	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Tumor of Neck	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2	.008
" " (Adipose)	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
" Breast	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	.008
Ulcer of Leg	..	..	..	..	..	..	..	1	1	..	1	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	3	2	5	.02
" Scrotum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Total Integumentary Diseases	..	..	2	..	1	..	..	1	2	1	1	2	..	1	1	1	..	..	..	1	..	1	..	..	..	..	..	..	30	21	51	.19
Order 9.—*Diseases of the Ear.*																																
Abscess of Ear	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	3	.01
Otitis	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	3	9	.03
Otorrhœa	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	3	4	.01
Total Diseases of the Ear	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9	7	16	.06
Total Local Class	255	194	275	217	304	197	258	202	244	174	243	170	197	170	183	143	84	80	42	74	15	29	6	5	1	3	1	2	5049	4231	9280	84.40

TABLE No. XIV.—*Continued.*

CONSOLIDATED ABSTRACT OF DEATHS IN NEW YORK FROM ALL CAUSES,

For the Twelve Months ending December 31st, 1871.

Causes of Death.	Nativity.				Color'd		Under 1 Year.		1		2		3		4		Total Under 5 Years.		5		10		15		20		25		30	
	Un. States.		Foreign.																											
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Class IV.—DEVELOPMENTAL DISEASES.																														
Order 1.—*Children.*																														
Atelectasis Pulmonum	20	11	..	..	..	..	20	11	..	..	..	..	..	..	..	..	20	11	..	..	..	..	..	..	..	..	..	..	..	..
Cyanosis	81	72	..	1	..	1	81	70	..	..	..	..	..	..	..	1	81	71	..	1	..	..	..	..	..	1	..	..	..	..
Cleft Palate	2	1	..	..	..	..	2	1	..	..	..	..	..	..	..	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..
Hemorrhage from Cord	8	9	..	..	..	2	8	9	..	..	..	..	..	..	..	..	8	9	..	..	..	..	..	..	..	..	..	..	..	..
Inflammation of Umbilicus	3	2	..	..	..	..	3	1	..	1	..	..	..	..	..	..	3	2	..	..	..	..	..	..	..	..	..	..	..	..
Imperforate Anus	9	6	..	..	..	..	9	6	..	..	..	..	..	..	..	..	9	6	..	..	..	..	..	..	..	..	..	..	..	..
Other Malformations	5	6	..	..	..	1	5	6	..	..	..	..	..	..	..	..	5	6	..	..	..	..	..	..	..	..	..	..	..	..
Premature Birth	301	251	..	..	1	4	301	251	..	..	..	..	..	..	..	..	301	251	..	..	..	..	..	..	..	..	..	..	..	..
Preternatural Birth	48	35	..	..	..	..	48	35	..	..	..	..	..	..	..	..	48	35	..	..	..	..	..	..	..	..	..	..	..	..
Premature Closure of Fontanelles	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Sclerema	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Spina Bifida	8	8	..	..	..	..	7	7	..	..	..	..	..	..	..	..	7	7	1	..	..	1	..	..	..	..	..	..	..	..
Total Developm'tal Dis. of Children	487	401	..	1	1	8	486	397	..	1	..	..	..	..	..	1	486	399	1	1	..	1	..	..	..	1	..	..	..	..
Order 2.—*Women.*																														
Abortion	..	..	..	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	1
Amenorrhœa	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
Chlorosis	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	1	..	..	..	..
Childbirth	..	14	..	36	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	12	..	13	..	13
Extra Uterine Pregnancy	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..
Flooding	..	3	..	23	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	..	1	..	7
Hysteria	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
Hysterical Mania	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Menorrhagia	..	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1
Miscarriage	..	12	..	12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	4	..	9	..	6
Puerperal Metritis	..	29	..	84	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	..	31	..	41	..	17
" Convulsions	..	26	..	31	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	..	16	..	15	..	11
" Mania	..	4	..	5	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	1	..	2	..	3
Placenta Prævia	..	1	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	2

TABLE No. XIV.—*Continued.*

CONSOLIDATED ABSTRACT OF DEATHS IN NEW YORK FROM ALL CAUSES,

For the Twelve Months ending December 31st, 1871.

Causes of Death.	35		40		45		50		55		60		65		70		75		80		85		90		95		100 and upwards.		Total by Sexes.		Total both Sexes.	Percent'ge of each Cause on Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M	F	M	F	M.	F.	M.	F.		
Class IV.—DEVELOPMENTAL DISEASES.																																
Order 1.—*Children.*																																
Atelectasis Pulmonum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	20	11	31	.11
Cyanosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	81	73	154	.57
Cleft Palate	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	3	.01
Hemorrhage from Cord	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	9	17	.03
Inflammation of Umbilicus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	2	5	.02
Imperforate Anus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9	6	15	.05
Other Malformations	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	6	11	.04
Premature Birth	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	301	251	552	2.05
Preternatural Birth	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	48	35	83	.31
Premature Closure of Fontanelles	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Solerema	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Spina Bifida	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	8	16	.06
Total Developm'tal Dis. of Children	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	487	402	889	3.29
Order 2.—*Women.*																																
Abortion	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	5	.02
Amenorrhœa	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
Chlorosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	4	.01
Childbirth	..	7	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	50	50	.19
Extra Uterine Pregnancy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	.008
Flooding	..	10	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	26	26	.10
Hysteria	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
Hysterical Mania	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
Menorrhagia	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	4	.01
Miscarriage	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	24	24	.09
Puerperal Metritis	..	13	..	4	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	113	113	.42
" Convulsions	..	7	..	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	57	57	.21
" Mania	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9	9	.03
Placenta Prævia	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	4	.01

TABLE No. XIV.—*Continued.*

CONSOLIDATED ABSTRACT OF DEATHS IN NEW YORK FROM ALL CAUSES,

For the Twelve Months ending December 31st, 1871.

Causes of Death	Nativity.				Color'd		Under 1 Year.		1		2		3		4		Total Under 5 Years.		5		10		15		20		25		30	
	Un. States.		Foreign.																											
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Pregnancy	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Pelvic Hæmatocele	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
Phlegmasia Dolens	..	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..
Rupture of Uterus	..	..	..	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Tubal Pregnancy	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Total Developm'tal Dis. of Women.	..	104	..	209	..	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	21	..	70	..	90	..	65
Order 3.—*Age.*																														
Senile Decay	24	47	103	150	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Gangrene	2	..	3	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total Diseases of Age	26	47	106	154	1	2	..	..	..	..	..	..	..	...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Order 4.—*Nutrition.*																														
Atrophy	21	18	2	..	..	..	19	14	1	2	1	..	..	1	..	..	21	17	..	..	..	..	..	..	..	..	..	..	..	..
Asthenia (Debility)	86	61	17	25	2	1	80	51	..	1	..	..	..	1	..	..	80	53	1	..	..	..	1	1	..	..	1	2	..	2
Total Diseases of Nutrition	107	79	19	25	2	1	99	65	1	3	1	..	..	2	..	..	101	70	1	..	..	..	1	1	..	..	1	2	..	2
Total of Developm'tal Class	690	631	125	389	4	16	585	462	1	4	1	..	..	2	..	1	587	469	2	1	..	2	1	22	..	71	1	92	..	67
Class V.—VIOLENT DEATHS.																														
Order 1.—*Accidents and Negligence.*	46	7	104	10	..	..	1	..	..	1	..	..	..	1	1	1	2	3	5	1	12	1	8	..	15	2	20	1	14	1
Bone Lodging in Bronchus	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Burns and Scalds	35	41	10	26	..	..	3	2	12	10	9	10	8	2	2	4	34	28	2	10	..	1	1	3	..	4	1	2	..	1

TABLE No. XIV.—*Continued.*

CONSOLIDATED ABSTRACT OF DEATHS IN NEW YORK FROM ALL CAUSES,

For the Twelve Months ending December 31st, 1871.

Causes of Death.	35		40		45		50		55		60		65		70		75		80		85		90		95		100 and upwards.		Total by Sexes.		Total both Sexes.	Percent'ge of each Cause on Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M	F	M	F	M.	F.	M.	F.		
Pregnancy	..	..	..	..	..	..	..	..	.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
Pelvic Hæmatocele	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
Phlegmasia Dolens	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	4	.01
Rupture of Uterus	..	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	5	.02
Tubal Pregnancy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
Total Levelopm'tal Dis. of Women	..	45	..	18	..	2	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	313	313	1.16
Order 3.—*Age.*																																
Senile Decay	..	..	..	..	..	..	1	1	1	1	11	10	8	10	26	47	24	35	20	41	20	24	7	14	7	7	2	7	127	197	324	1.20
" Gangrene	..	..	..	..	..	..	..	1	..	..	2	..	..	..	1	1	..	1	1	..	..	..	1	..	..	1	..	..	5	4	9	.03
Total Diseases of Age	..	..	..	..	..	..	1	2	1	1	13	10	8	10	27	48	24	36	21	41	20	24	8	14	7	8	2	7	132	201	333	1.23
Order 4.—*Nutrition.*																																
Atrophy	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	23	18	41	.15
Asthenia (Debility)	1	1	1	1	1	3	2	2	2	5	4	5	4	2	3	3	1	4	1	1	..	1	..	..	..	..	..	..	103	86	189	.70
Total Diseases of Nutrition	1	1	1	1	1	3	2	2	2	5	4	5	6	2	3	3	1	4	1	1	..	2	..	..	.	..	..	..	126	104	230	.85
Total of Developm'tal Class	1	46	1	19	1	5	3	4	3	7	17	15	14	12	30	51	25	40	22	42	20	26	8	14	7	8	2	7	745	1020	1765	6.54
Class V.—VIOLENT DEATHS.																																
Order 1.—*Accidents and Negligence.*	19	2	20	..	7	3	12	1	6	..	4	..	3	2	1	..	2	..	..	..	..	..	..	..	.	..	..	..	150	17	167	.62
Bone Lodging in Bronchus	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Burns and Scalds	3	5	1	2	2	2	..	3	1	..	..	1	..	1	..	2	..	2	..	..	..	..	..	..	..	..	..	..	45	67	112	.42

TABLE No. XIV.—*Continued.*

CONSOLIDATED ABSTRACT OF DEATHS IN NEW YORK FROM ALL CAUSES,

FOR THE TWELVE MONTHS ENDING DECEMBER 31ST, 1871.

CAUSES OF DEATH.	NATIVITY.				Colo'd		Under 1 Year.		1		2		3		4		Total Under 5 Years.		5		10		15		20		25		30	
	Un. States.		Foreign.																											
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Drowning	49	6	124	8	2	..	5	..	1	2	..	..	..	..	1	..	7	2	13	..	6	..	8	3	2	..	11	3	20	2
Explosion of Boiler (St'bt Westfield)	27	11	31	13	1	..	2	..	1	1	..	1	1	1	1	..	5	3	3	4	1	2	8	2	11	2	8	1	5	2
" Torpedoes	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..
" Nitro-Glycerine	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Falls	65	17	134	24	..	1	1	2	6	4	5	1	4	2	6	1	22	10	9	4	8	..	9	3	11	..	19	1	17	5
Effects of Immersion	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Killed by Vehicles, &c., in Streets	44	7	54	8	..	..	..	..	1	1	3	1	4	1	3	..	11	3	8	1	13	1	4	..	13	1	7	1	11	..
Neglect and Exposure	8	6	..	..	..	..	8	6	..	..	..	..	..	..	..	..	8	6	..	..	..	..	..	..	..	..	..	..	..	..
Poison (by various)	5	8	2	5	..	..	1	..	..	3	1	..	..	..	..	..	2	3	1	..	..	..	..	..	..	..	1	..	1	1
Suffocation (Asphyxia)	20	12	10	2	..	..	14	11	1	..	..	..	..	..	1	..	16	11	..	..	1	..	..	1	3	..	6	1	..	1
Surgical Operations	23	18	7	15	2	2	6	3	1	1	3	..	2	2	..	..	12	6	2	1	..	..	..	..	3	..	2	8	..	2
Wounds (various)	..	1	9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	2	..	2	..
" Gunshot	9	1	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	3	..	5	..	2	..	3	..
Total Deaths by Accid't & Neglig'ce	332	130	497	112	5	3	41	24	23	23	21	13	19	9	15	6	119	75	43	21	44	6	42	12	64	10	79	18	74	15
Order 2.—*Military Conflict.*																														
Riot, July 12th	15	1	36	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	7	..	10	..	13	..	5	1
Total Deaths from Riot	15	1	36	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	7	..	10	..	13	..	5	1
Order 3.—*Homicide.*																														
By Various Means	15	9	35	6	..	2	5	4	..	..	..	1	..	..	..	..	5	5	2	..	..	..	3	..	5	2	14	2	6	1

TABLE No. XIV.—*Continued.*

CONSOLIDATED ABSTRACT OF DEATHS IN NEW YORK FROM ALL CAUSES,

For the Twelve Months ending December 31st, 1871.

Causes of Death.	35		40		43		50		55		60		65		70		75		80		85		90		95		100 and upw'ds		Total by Sexes.		Total both Sexes.	Percent'ge of each Cause on Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M	F.	M.	F.	M	F	M	F	M	F	M	F	M.	F.		
Drowning	39	2	37	..	17	1	5	..	4	1	3	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	173	14	187	.69
Explosion of Boiler (St'bt Westfield)	4	2	4	2	..	1	5	..	2	..	1	2	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	58	24	82	.31
" Torpedoes	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	3	.01
" Nitro-Glycerine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Falls	23	3	17	2	20	1	14	.	8	1	12	2	5	1	2	5	2	..	..	2	1	1	..	..	..	..	..	..	199	41	240	.89
Effects of Immersion	1	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	3	.01
Killed by Vehicles, &c., in Streets.	11	..	7	1	3	..	4	2	2	1	2	1	2	2	..	..	..	1	..	..	..	..	..	..	..	..	..	..	98	15	113	.42
Neglect and Exposure	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	6	14	.05
Poison by (various)	..	3	..	..	1	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	7	8	15	.06
Suffocation (Asphyxia)	..	..	..	..	2	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	30	14	44	.17
Surgical Operations	1	2	1	5	4	1	1	2	1	1	2	5	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	30	33	63	.23
Wounds (various)	1	..	..	1	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9	1	10	.04
" Gunshot	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	15	1	16	.06
Total Deaths by Accid't & Neglig'ce.	102	19	87	13	59	9	42	8	26	4	25	12	12	7	5	7	4	3	1	2	1	1	..	..	..	..	..	..	829	242	1071	3.97
Order 2.—*Military Conflict.*																																
Riot, July 12th	5	..	4	..	2	..	..	..	3	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	51	2	53	.20
Total Deaths from Riot	5	..	4	..	2	..	..	..	3	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	51	2	53	.20
Order 3.—*Homicide.*																																
By Various Means	3	2	3	2	6	..	1	..	..	1	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	50	15	65	.24

TABLE No. XIV.—*Continued.*

CONSOLIDATED ABSTRACT OF DEATHS IN NEW YORK FROM ALL CAUSES.

FOR THE TWELVE MONTHS ENDING DECEMBER 31ST, 1871.

CAUSES OF DEATH.	NATIVITY. Un. States.		NATIVITY. Foreign.		Color'd		Under 1 Year.		1		2		3		4		Total Under 5 Years.		5		10		15		20		25		30	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Order 4.—*Suicide.*																														
By Abortion	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
" Cutting	2	..	12	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	1	1
" Chronic Opium Poisoning	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
" Drowning	..	1	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	1	..
" Gunshot	9	4	10	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	4	2	2	..	3	..
" Hanging	3	..	11	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	1	..	1	1
" Leap from Height	..	..	4	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	1	..	..	1
" " R. R. Train	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
" Poison (various)	7	6	20	8	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	4	2	4	2	3	2
Total Suicidal Deaths	22	11	63	18	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	1	13	4	12	4	11	5
Order 5.—*Execution.*																														
John Thomas Rosenville	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Total from Violent Class	384	151	632	137	7	6	46	28	23	23	21	14	19	9	15	6	124	80	45	21	44	9	54	13	92	16	118	24	97	22
Grand Total from all Causes	9298	8177	5159	4247	245	211	4287	3707	1459	1248	621	558	319	329	308	285	6894	6077	462	408	220	185	327	315	597	578	774	763	750	680

TABLE No. XIV.—*Continued.*

CONSOLIDATED ABSTRACT OF DEATHS IN NEW YORK FROM ALL CAUSES,

For the Twelve Months ending December 31st, 1871.

Causes of Death.	35 M.	35 F.	40 M.	40 F.	45 M.	45 F.	50 M.	50 F.	55 M.	55 F.	60 M.	60 F.	65 M.	65 F.	70 M.	70 F.	75 M.	75 F.	80 M.	80 F.	85 M.	85 F.	90 M	90 F	95 M	95 F	100 and upwards. M.	100 and upwards. F.	Total by Sexes. M.	Total by Sexes. F.	Total both Sexes.	Percent'ge of each Cause on Total.
Order 4.—*Suicide.*																																
By Abortion	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	.004
" Cutting	1	..	2	..	1	..	2	..	3	..	..	..	1	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	14	2	16	.06
" Chronic Opium Poisoning	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
" Drowning	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	1	6	.02
" Gunshot	2	1	1	..	3	..	1	..	1	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	19	6	25	.09
" Hanging	2	..	1	..	2	2	1	..	2	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	14	4	18	.07
" Leap from Height	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	1	5	.02
" " R. R. Train	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
" Poison (various)	5	3	2	..	1	2	2	2	2	..	2	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	27	14	41	.15
Total Suicidal Deaths	10	4	7	..	9	4	6	2	8	..	3	..	2	2	2	..	..	..	..	..	..	1	..	..	..	..	..	..	85	29	114	.42
Order 5.—*Execution.*																																
John Thomas Rosenville	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	.004
Total from Violet Class	120	25	101	15	76	13	49	10	37	5	29	12	16	9	8	7	4	3	1	2	1	2	..	..	..	..	..	..	1016	288	1304	4.83
Grand Total from all Causes	791	605	675	516	657	481	541	388	445	320	405	319	326	284	298	287	145	169	82	141	41	68	15	21	9	11	8	11	14,452	12,524	26,976	....

TABLE No. XIV.—RECAPITULATION.

CAUSES OF DEATH.		Nativity.		Colored.	Under 1 Year.	1	2	3	4	Total Under 5 Years.	5	10	15	20	25	30	35
		United States.	For'gn														
Classes.																	
Zymotic	M.	3575	783	43	1856	737	316	177	116	3202	198	61	69	115	130	122	92
	F.	3353	653	32	1693	656	316	194	130	2989	210	56	74	108	115	77	72
Total of both Sexes		6928	1436	75	3549	1393	632	371	246	6191	408	117	143	223	245	199	164
Constitutional	M.	1669	1615	98	539	251	96	39	15	940	56	32	106	250	328	309	323
	F.	1457	1522	64	449	197	52	39	29	766	43	44	116	248	356	271	268
Total of both Sexes		3126	3137	162	988	448	148	78	44	1706	99	76	222	498	684	580	591
Local	M.	3045	2004	93	1261	447	187	84	62	2041	161	83	97	140	197	222	255
	F.	2585	1646	93	1075	368	176	85	69	1773	128	74	90	135	178	193	194
Total of both Sexes		5630	3650	186	2336	815	363	169	131	3814	289	157	187	275	375	415	449
Developmental	M.	620	125	4	585	1	1	..	..	587	2	..	1	..	1	..	1
	F.	631	389	16	462	4	..	2	1	469	1	2	22	71	92	67	46
Total of both Sexes		1251	514	20	1047	5	1	2	1	1056	3	2	23	71	93	67	47
Violence	M.	384	632	7	46	23	21	19	15	124	45	44	54	92	118	97	120
	F.	151	137	6	28	23	14	9	6	80	21	9	13	16	24	22	25
Total of both Sexes		535	769	13	74	46	35	28	21	204	66	53	67	108	142	119	145
Total (by Sexes)	M.	9293	5159	245	4287	1459	621	319	208	6894	462	220	827	597	774	750	791
	F.	8177	4347	211	3707	1248	558	329	235	6077	403	185	815	578	765	630	605
Total of both Sexes		17470	9506	456	7994	2707	1179	648	443	12971	865	405	642	1175	1539	1380	1896
Percentage on Total Mortality of each Sex in each period of life	M.	34.45	19.12	.91	15.89	5.41	2.30	1.18	.77	25.56	1.71	.82	1.21	2.21	2.87	2.78	2.93
	F.	30.31	16.12	.78	13.74	4.62	2.07	1.22	.87	22.52	1 49	.68	1.17	2.14	2.84	2.34	2.24
Percentage on Total Mortality of both Sexes in each period of life		64.76	3524	1.69	29.63	10.08	4.37	2.40	1.64	48.08	3.20	1.50	2.38	4.35	5.71	5.12	5.17

TABLE No. XIV.—RECAPITULATION.—Continued.

CAUSES OF DEATH.		40	45	50	55	60	65	70	75	80	85	90	95	100 and upwards	Total by Sexes.	Percentage of each Class on Total.
CLASSES.																
ZYMOTIC	M.	74	68	65	41	32	32	30	14	8	3	1	1	..	4358	16.16
	F.	56	52	33	27	28	30	37	19	14	7	1	..	1	4006	14.85
Total of both Sexes		130	120	98	68	60	62	67	33	22	10	2	1	1	8364	31.01
CONSTITUTIONAL	M.	224	208	166	120	84	67	42	18	9	2	..	..	..	3284	12.17
	F.	209	164	139	107	94	63	49	27	9	4	1	..	1	2979	11.05
Total of both Sexes		433	372	305	227	178	130	91	45	18	6	1	..	1	6263	23.22
LOCAL	M.	275	304	258	244	243	197	183	84	42	15	6	1	1	5049	18.72
	F.	217	197	202	174	170	170	143	80	74	29	5	3	2	4231	15.68
Total of both Sexes		492	501	460	418	413	367	326	164	116	44	11	4	3	9280	34.40
DEVELOPMENTAL	M.	1	1	3	3	17	14	30	25	22	20	8	7	2	745	2.76
	F.	19	5	4	7	15	12	51	40	42	26	14	8	7	1020	3.78
Total of both Sexes		20	6	7	10	32	26	81	65	64	46	22	15	9	1765	6.54
VIOLENCE	M.	101	76	49	37	29	16	8	4	1	1	..	..	..	1016	3.76
	F.	15	13	10	5	12	9	7	3	2	2	..	..	..	288	1.07
Total of both Sexes		116	89	59	42	41	25	15	7	3	3	..	..	..	1304	4.83
Total (by Sexes)	M.	675	657	541	445	405	326	293	145	82	41	15	9	3	14,452	53.57
	F.	516	431	388	320	319	284	287	169	141	68	21	11	11	12,524	46.43
Total of both Sexes		1191	1088	929	765	724	610	580	314	223	109	86	20	14	26,976	100,00
Percentage on Total Mortality of each Sex in each period of life	M.	2.50	2.43	2.01	1.65	1.50	1.21	1.09	.54	.30	.15	.06	.03	.01	53.57	..
	F.	1.91	1.60	1.44	1.19	1.18	1.05	1.06	.63	.52	.25	.08	.04	.04	46.43	..
Percentage on Total Mortality of both Sexes in each period of life		4.41	4.03	3.45	2.84	2.68	2.26	2.15	1.17	.82	.40	.14	.07	.05	100.00	..

MORTALITY.

There occurred during the year 26,976 deaths, a weekly average of 519. The whole number of deaths was less by 199 than that of the previous year. Assuming the population to have been 942,292, (according to the census of 1870) the death-rate was 28.6 in each thousand inhabitants. In the following table we present the mortality for 1871 of the most important cities of the United States and of many foreign cities.

TABLE No. XV.—CITIES OF THE UNITED STATES.

CITY.	STATE.	Population. (Census of 1870 in U. S.	Number of Deaths (1871).	Annual Death-rate per 1000.
New York	New York	942,292	26.976	28.6
Philadelphia	Pennsylvania	674,022	15,485	22.9
Brooklyn	New York	396,099	10,259	25.9
St. Louis	Missouri	310,864	5,265	16.9
Chicago	Illinois	298,977	6,976	23.3
Baltimore	Maryland	267,354	7,141	26.7
Boston	Massachusetts	250,526	5,888	23.5
Cincinnati	Ohio	216,239	4,832	22.3
New Orleans	Louisiana	191,418	5,595	29.2
San Francisco	California	149,473	3,214	21.5
Buffalo	New York	117,714	1,633	13.9
Washington	District of Columbia	109,199	1,588	14.6
Newark	New Jersey	105,059	2,490	23.7
Louisville	Kentucky	100,753	2,373	23.5
Cleveland	Ohio	92,829	1,811	19.5
Jersey City	New Jersey	82,546	549	6.6
Detroit	Michigan	79,577	1,765	22.2
Milwaukee	Wisconsin	71,440	1,442	21.0
Albany	New York	69,422	1,660	23.9
Providence	Rhode Island	68,904	1,254	18.2
Rochester	New York	62,386	979	15.7
Richmond	Virginia	51,038	1,552	30.4
New Haven	Connecticut	50,840	1,044	20.5
Charleston	South Carolina	48,956	1,670	34.1
Troy	New York	46,465	1.432	30.8
Syracuse	"	43,051	769	17.8
Worcester	Massachusetts	41,105	1,149	27.9
Lowell	"	40,928	1,033	25.2
Memphis	Tennessee	40,226	1,856	46.1
Cambridge	Massachusetts	39,634	821	20.7
Hartford	Connecticut	37,180	433	11.7
Mobile	Alabama	32,034	1,113	34.7
Toledo	Ohio	31,584	419	13.2
Portland	Maine	31,413	683	21.7
Wilmington	Delaware	30,841	497	16.1
Dayton	Ohio	30,473	592	19.0
Lawrence	Massachusetts	28,921	568	19.6
Charlestown	"	28,323	594	20.9
Savannah	Georgia	28,235	1,033	36.6
Lynn	Massachusetts	28,233	579	20.5
Fall River	"	26,766	607	22.6
Salem	"	24,117	487	20.1
Quincy	Illinois	24,052	370	15.4
Manchester	New Hampshire	23,536	578	24.6
Evansville	Indiana	21,830	556	25.5
New Bedford	Massachusetts	21,320	350	16.4
Elizabeth	New Jersey	20,832	130	6.2
Hoboken	"	20,297	621	30.6
St. Paul	Minnesota	20,030	307	15.3
Wheeling	West Virginia	19,280	305	15.8
Petersburg	Virginia	18,950	830	43.8
Taunton	Massachusetts	18,629	260	13.9
Chelsea	"	18,547	320	17.2
Leavenworth	Kansas	17,873	302	16.9
Newburgh	New York	17,014	309	18.1
Sacramento	California	16,283	344	21.1
Terre Haute	Indiana	16,103	247	15,3
Elmira	New York	15,863	267	16.8
Gloucester	Massachusetts	15,389	241	15.6
Burlington	Vermont	14 387	145	10.1
Galveston	Texas	13,818	414	29.9
Wilmington	North Carolina	13,446	321	23.8
Salt Lake City	Utah	12,854	440	34.2
Vicksburg	Mississippi	12,443	520	41.8
Jacksonville	Florida	6,912	80	11.5
Havana	Cuba	200,000	9,174	45.8

Mortality—continued.

CANADIAN CITIES.

CITY.	STATE.	Population.	Number of Deaths (1871).	Annual Death-rate per 1000.
Montreal	Canada	117,865	4,341	36.9
Toronto	"	56,092	491	8.7
Hamilton	"	26,716	178	6.7
London	"	15,826	39	2.5

CITIES AND TOWN DISTRICTS OF GREAT BRITAIN.*

London	England	3,263,872	80 332	24.7
Liverpool	"	494,649	17,375	35.1
Glasgow	Scotland	479,227	15,765	32.9
Manchester	England	351,488	10,959	31.2
Birmingham	"	344,980	8,594	24.9
Dublin	Ireland	310,565	8,146	26.2
Leeds	England	260,657	6.889	26.4
Sheffield	"	241,507	6.843	28.3
Edinburgh	Scotland	201,728	5.434	26.9
Bristol	England	183,298	4,246	23.2
Bradford	"	146,987	3.753	25.5
Newcastle-on-Tyne	"	128,677	4,140	32.2
Salford	"	125,422	3,815	30.4
Hull	"	122,266	2,841	23.2
Portsmouth	"	113,450	2,195	19.3
Sunderland	"	98,797	3,608	36.5
Leicester	"	95,882	2,569	26.8
Nottingham	"	86,929	2,259	26.0
Norwich	"	80,533	2,087	25.9
Wolverhampton	"	68,476	1,914	28.0
South Eastern Co s.—Town Districts.				
Brighton	"	90,345	2,037	22.5
Chatham	"	59,166	1,159	19.6
Southampton	"	48,169	1,383	28.7
Dover	"	35,111	685	19.5
Reading	"	33,542	686	20.5
Maidstone	"	26,283	526	20.0
Gosport	"	22,638	558	24.6
South Midland Counties.				
Northampton	"	47,644	1,062	22.3
Oxford	"	39,181	876	22.4
Cambridge	"	30,173	675	22.4
Eastern Counties.				
Yarmouth	"	43,890	1,002	22.8
Ipswich	"	42,952	1,017	23.7
Colchester	"	26,428	557	21.1
South Western Counties.				
Plymouth	"	68,223	1,636	24.0
Bath	"	54,482	1,246	22.9
Devonport	"	50,085	1,124	22.4
Exeter	"	34,671	884	25.5
East Stonehouse	"	14,592	419	28.7
West Midland Counties.				
Stoke-upon-Trent	"	144,892	4,381	30.2
Walsall	"	49,096	1,081	22.0
Dudley	"	43,761	1,072	24.5
Cheltenham	"	41,980	729	17.4
Coventry	"	40'071	1,061	26.5
Worcester	"	32,426	764	23.6
Shrewsbury	"	27,284	575	21.1
North Midland Counties.				
Derby	"	62.644	1,351	21.6
Lincoln	"	31.074	709	22.8

* The population of the British cities is *estimated* by the Registrar-General for the middle of the year, the estimate being founded upon the census taken in April, 1871.

Mortality—continued.

CITY.	STATE.	Population.	Number of Deaths (1871).	Annual Death-rate per 1000.
North Western Counties.				
Preston	England	85,490	2,646	31.0
Oldham	"	82,894	2,061	24.9
Bolton	"	80.653	2,276	28.2
Blackburn	"	76,701	1,980	26.8
Birkenhead	"	64.918	1,653	25.5
Stockport	"	58,855	1 538	26.1
Chester	"	45,953	951	20.4
Bury	"	44,901	1,224	27.3
Wigan	"	39,198	1,147	29.3
Rochdale	"	36,746	918	25.0
Macclesfield	"	33,707	866	25.7
Ashton-under-Lyme	"	31,382	797	25.4
Yorkshire.				
York	"	56,073	1,226	21.9
Halifax	"	47,583	1,120	23.5
Huddersfield	"	38,758	960	24.8
Northern Counties.				
South Shields	"	75,390	2.513	33.3
Gateshead	"	48,226	1,539	31.9
Tynemouth	"	40,800	1,049	25.7
Carlisle	"	33,935	788	23.2
Monmouthshire and Wales.				
Merthyr Tynfil	"	95,119	2,313	24.3
Swansea	"	67,362	1,496	22.2
Cardiff	"	64,983	1,353	20.8
Newport (Monmouth)	"	30,025	847	28.2
	EUROPEAN CITIES.			
Paris	France	1,825,274	99.945	54.7
Berlin	Prussia	828.003	32,222	38.9
Vienna *	Austria	632.000	22,570	35.7
Brussels	Belgium	185,000	5,964	32.2
Copenhagen	Denmark	181,291	4,685	25.8
Christiania	Norway	66.541	1,234	18.5
Rome	Italy	247,497	7,612	30,7
Turin	"	212,644	7,099	33.4
Milan	"	199,009	7,661	38.5
Florence	"	167,093	6,294	37.6
Naples	"	448,743	17,523	39.0
Genoa	"	130,269	3,809	29.2
Rotterdam	Holland	111,403	....	46.0
Utrecht	"	45,541	....	44.0
The Hague	"	82,620	....	41.0
Amsterdam	"	263,204	....	34.0
	CITIES IN ASIA.			
Bombay	India	646,636	16,008	24.8
Calcutta	"	430,000	10,467	24.0
Madras	"	395,440	13,034	32.9

* 2,056 of the deaths in Vienna were of non-residents of the city proper. We have not subtracted these from the total, as the same class of deaths forms a very large element of our own mortality.

The foregoing figures are evidently erroneous in some instances, among which Jersey City with a death-rate of but 6.6 in the thousand inhabitants, Elizabeth, N. J., 6.2, and the three Canadian towns of Toronto, Hamilton, and London, with a death-rate of but 8.7, 6.7 and 2.5 respectively, furnish the most conspicuous and absurd examples. The Registrar General of the Province of Ontario in which these towns are situated, admits in his report the present inefficiency of their registration system, and says: "A comparison of the actual number of registrations with the estimated numbers shows that about *one-fifth* of the deaths have been registered." And again, "That only one-fifth of the deaths which took place in the Province should have been registered is sufficient proof of the neglect with which this important measure has been treated by one of the so-called learned professions." In the City of Quebec there is no registration. The figures of Montreal probably fall little, if any, below the actual mortality.

The exceptional conditions which prevailed in Chicago during the latter part of 1871 may render the figures received from that city somewhat questionable. In the case of every other city in the Union we have based the number of inhabitants upon the figures of the recent United States census which credited Chicago with a population of 298,977.

Between the completion of the Census, however, and the occurrence of the great fire on October 8, 1871, Chicago received a large accession of population, as a municipal census, taken in June, 1871, showed about 330,000 inhabitants. Immediately after the fire some 40,000 persons were said to have left the city, of whom a very large proportion subsequently returned. Under all these circumstances we have deemed it best to retain the original figure of population. With regard to mortality, Dr. Rauch, the Sanitary Superintendent, informs us that few, if any, deaths escaped the attention of the authorities, as all the cemeteries in and about the city were at once after the fire placed under the strictest surveillance. One hundred and eight bodies were found burned; 200 persons are supposed to have thus perished.

The disastrous consequences of the late war between France and Germany were forcibly illustrated by the mortality of Paris and Berlin for 1871. In Paris nealy 100,000 people were cut off during the year, yielding the extraordinary death-rate of 54.7. It is even probable that the death-rate was actually in excess of the figure stated, as the population of Paris, which before the war amounted to 1,825,274, has declined very considerably since her momentous struggle. We adhere, however, to the old figure, as it is still retained by Dr. Worms, the Health Officer of Paris. In Berlin, which suffered only remotely, the death rate rose to 38.9 in the thousand.

In point of salubrity New York in 1871 did not compare unfavorably with many other cities on both sides of the Atlantic, as the foregoing table shows.

The various Wards of the city differed considerably in their several death-rates. In the 3d Ward it was as low as 18.8. This ward, extending from Chambers to Liberty street, and from Broadway to the North River, has few objectionable features in a sanitary point of view, as regards domiciles. Its population amounts to less than 4,000, of whom only one-fourth occupy tenement houses. During recent years its death-rate has been uniformly low. The 2d Ward, of somewhat similar character as to size, position along the river, and paucity of inhabitants, (about 1,300), has even less proportion of tenement house population, but a certain number of cellar habitations, which are particularly obnoxious on account of being subject to occasional inundation. The forced vacation, however, of many of these objectionable dens has been achieved by the Board during the past three or four years. The death-rate, which in 1868 was 46.9, fell in 1869 to 42.7, in 1870 to 34.3, and in 1871 to 28.9. The 1st Ward, contiguous to the 2d and 3d, at the lower extremity of the island, has always, since its abandonment by the better classes, been distinguished by a heavy mortality. It is populated at the rate of 60,000 to the square mile, and its two hundred tenement houses have an average of 42 inmates each—greater than that of any other ward in the city. It also is cursed with many cellar dwellings used by a most degraded class. Its death-rate in the past year was 34.2. The 4th Ward, notwithstanding the general bad character and crowding of its inhabitants, (183,000 to the square mile), has been much improved hygienically within the past year by the depopulation and remodeling of some of its worst tenement houses by order of the Board; the best example of which was furnished in the case of Gotham Court, 36 and 38 Cherry street, with its more than 100 families—a once foul nest of disease and death, familiar in name, at least, to most of our citizens. This may now be almost regarded as a model tenement house. The death-rate in the 4th Ward was 27, against 39 in 1869. The 5th Ward has over half of its population residing in tenement houses which average, however, only 30 inhabitants each. Its death-rate was 26.4. That of the 6th Ward was very high, as it always must be so long as it continues to be the very focus of utter wretchedness and vice. Thirty-three in every thousand of its inhabitants (exclusive of hospital inmates) died during the year. This was the highest local death-rate. In the 14th ward, which partakes of many of the worst characteristics of the 6th, the death-rate reached 31.7. The lowest was that of the 15th Ward, viz.: 15 in the thousand inhabitants, although its nominal death-rate was 41, on account of the 719 babies who died in the Foundling Asylum. Only sixteen per cent. of its people live in tenement houses, its general population being of a superior character, and many being absent from the city in the summer season. The next lowest death-rate was shown by the 21st Ward, viz.: 18, excluding hospitals. The others varied from 19 in the 9th to 25 in the 11th, 13th and 20th Wards. The death-rate in the four most thickly populated wards, (viz.: the 10th, 11th, 13th and 17th), was quite low, ranging from 23 to 25.

OBSERVATIONS UPON THE PRINCIPAL CAUSES OF DEATH.

ZYMOTIC DISEASES.

Zymotic diseases in the aggregate destroyed 8,364 lives during the year—31 per cent. of the total mortality—a slight increase upon the proportion of 1870. 4,358 were males and 4,006 females. 83 per cent. were of native birth, and 17 per cent. of foreign birth. 88 per cent. were children less than ten years of age, the vast majority of whom were of native birth, although a large proportion were of foreign extraction. Most of the Zymotic deaths, therefore, among persons beyond ten years of age, occurred in the foreign born population, a natural result of the unhealthful influences under which they live. Out of 7,861 deaths produced by the principal Zymotic diseases, 5,069 took place in tenement houses and hospitals, while only 2,792 occurred in private houses, boarding houses and hotels. 43 per cent. of the deaths from Zymotic causes were in infants less than a year old, and 60 per cent. in those less than two years old, against 40 and 50 per cent. during the previous year.

Small-Pox.—The most prominent epidemic of the year was that of small-pox. The comparatively severe visitation in 1870, which occasioned 293 deaths, had so subsided in the fall of that year that but 12 deaths were due to the disease in the three months ending December 31st. This, however, was only a deceptive lull, soon to be succeeded by an outbreak more violent than ever. In the early part of January, 1871, it reappeared with extraordinary vigor, and continued to increase for six months. In the summer quarter it began slowly to decline, its mortality for the quarter being but 164, and for the month of September 23. Up to this time, the work of public vaccination had been so energetically pursued by the Health Department that 100,000 persons had received its benefit within nine months, and the evident subsidence of the epidemic was with good reason attributed to the protective influence of so enormous a work. The necessity, however, which from pecuniary embarrassment now arose for dispensing during two months with the vaccinating corps, enabled the almost exhausted disease to regain its ascendancy, and although toward the close of November vaccination was resumed, the enemy had acquired too much new force to be speedily overcome. While it caused only 23 deaths in October, they amounted to 36 in November, and 70 in December. Its total mortality for the year reached 805—its greatest recorded yearly mortality in this city during the present century, the next largest having been in 1853 when it was credited with 681 deaths. There were reported to the Bureau of Sanitary Inspection 2,085 cases, of which 1,499 were removed to the Small-pox Hospital.

The total number of cases admitted to that institution was 2,489. The total number of cases, consequently, which came under the observation of the Health Department and Commissioners of Charities and Correction together, amounted to 3,084. According to these figures the mortality of the disease was 26 per cent.; or, allowing for a few cases sequestered in the city, there died about 25 per cent. of all who were seized with the affection. At the Small-pox Hospital the percentage of deaths due to Small-pox directly was 21.1. The greatest number of deaths outside of the hospital occurred as follows: 41 in the 17th Ward; 37 in the 22d; 26 in the 20th; 23 in the 21st; 15 in the 10th, and 14 in the 8th and 12th severally. Of the total number of fatal cases, 519 were native and 286 foreign *—25 being reported as colored persons; 454 were males and 351 females. Among persons less than 20 years old the disparity between the sexes was slight—

* The preponderance of the native element in this mortality is more apparent than real. About 50 per cent. of the deaths from Small Pox occur among children less than ten years of age, and principally those of the tenement house population. A very large proportion of such children in this city are native born, although of foreign parentage; and the fatality of the disease in early childhood is well known to be relatively enormous. Out of 1,098 fatal cases of small pox in New York during 1870 and 1871, the native mortality amounted to 709, and the foreign to 389. Of the total deaths, however, 550 or more than half, took place among children less than ten years old.

TABLE No. XVI.—DEATHS FROM ZYMOTIC DISEASES.

NEW YORK.—DEATHS FROM SMALL-POX, MEASLES, SCARLATINA, DIPHTHERIA, CROUP, WHOOPING COUGH, TYPHUS FEVER, TYPHOID FEVER, CHOLERA, YELLOW FEVER, DIARRHŒAL MALADIES AND OTHER ZYMOTIC DISEASES, DURING THE TWELVE MONTHS ENDING DECEMBER 31ST, 1871.

WARDS.	Small-pox.	Measles.	Scarlatina.	Diphtheria.	Croup.	Whooping-Cough.	Typhus Fever.	Typhoid Fev'r.	Cholera.	Other Diarrhœal Diseases.	Yellow Fever.	Other Zymotic Diseases.	Total Deaths from Zymotic Diseases.
First	1	7	16	2	8	9	..	5	..	50	..	23	121
Second	..	..	..	1	2	2		..	1	3	.	1	10
Third	..	1	..	.	2	1	..	1	..	3	..	3	11
Fourth	5	7	6	11	21	9	1	3	..	58		30	151
Fifth	6	5	19	10	16	4	..	2	..	43	.	15	120
Sixth	6	9	23	8	25	28	..	4	..	95		45	243
Seventh	1	4	40	16	31	26	2	7		133	.	29	289
Eighth	14	19	20	4	15	13	1	8		112		40	246
Ninth	9	23	36	7	18	6	3	15	..	116	.	53	286
Tenth	15	18	27	13	10	24	1	2		149	..	53	312
Eleventh	5	25	42	19	32	29	9	21	..	225	..	59	466
Twelfth	14	41	39	18	21	41	17	40	..	322	..	156	709
Thirteenth	5	9	24	6	23	19	2	5	..	139	..	31	263
Fourteenth	3	11	17	10	19	22	1	4	..	85	.	27	199
Fifteenth	5	12	5	6	8	9	..	1	..	456	..	97	601
Sixteenth	5	21	71	13	16	12	1	13	..	90	.	48	290
Seventeenth	41	30	84	22	34	43	11	17	4	357	..	69	712
Eighteenth	12	31	48	15	24	25	..	5	..	159	..	44	363
Nineteenth	572	44	93	17	36	39	11	41	..	121	1	152	1,432
Twentieth	26	25	73	13	49	50	1	13	1	249	..	79	579
Twenty-first	23	29	18	11	17	25	1	18	..	143	1	98	384
Twenty-second	37	38	85	16	39	29	3	14	..	237	..	79	577
Totals	805	409	791	238	466	465	65	239	6	3647	2	1231	8,384

Total Deaths from all causes.	Perc'tage of Zymotic Deaths on Total Mortality.	Total Population (in Wards Census of 1870.	Death Rate per 1,000 Annually of the Population from Zymotic causes.	Death Rate per 1,000 Annually of the Population from all causes.	Area.		Rate of Population to the Square Mile.	Remarks.
					Number of Acres.	Square Miles.		
496	24.31	14,463	8.37	34.29	154	0.24	60,262	Castle Garden and Emigrant Depot, 14; First Precinct Station, 2.
38	26.32	1,312	7.62	28.96	81	0.12	10,933	
70	15.71	3,715	2.96	18.84	95	0.15	24,766	Third Precinct Station, 1; Twenty-seventh Precinct Station, 2.
641	23.56	23,748	6.23	26.99	83	0.13	182,675	Fourth Precinct Station, 7.
454	26.43	17,150	6.99	26.47	168	0.26	65,961	Fifth Precinct Station, 1.
863	28.16	21,153	11.48	40.80	86	0.13	162,715	City Prison, 24; Reception Hospital, 129; Home of Industry, 3; Sixth Precinct Station, 2.
1072	26.96	14,818	6.45	23.92	198	0.31	144,574	Seventh Precinct Station, 2.
967	25.44	34,913	7.04	27.70	183	0.29	120,389	Eighth Precinct Station, 1.
1025	27.90	47,609	6.01	21.53	322	0.50	95,218	St. Vincent's Hospital, 117; Jefferson Market Prison, 4; Ninth Precinct Station, 2; Twenty-eighth Prec. Station, 4.
993	31.42	41,431	7.53	23.96	110	0.17	243,712	Essex Street Jail, 2; Tenth Precinct Station, 1.
1736	26.84	64,230	7.25	27.03	196	0.30	214,100	St. Francis' Hospital, 127; Strangers' Hospital, 15; Eleventh Precinct Station, 3.
1697	41.78	47,497	14.92	35.73	*3,480	*5.44	*8,731	Leak and Watts' Asylum, 1; Sheltering Arms, 1; House of Mercy, 3; House of Good Shepherd, 16; Deaf and Dumb Asylum, 6; Ward's Island, 325; Randall's Island, 28; Bloomingdale Lunatic Asylum, 24; Infants' Hospital, 270; House of Refuge, 4; New York Juvenile Asylum, 2; Shepherd's Fold, 4; R. I. Idiot Asylum, 8; St. Joseph's Home, 5; Reception Hospital, 2; Colored Orphan Asylum, 4; Soldiers' Retreat, 17; Convent of Sacred Heart, 1; Twelfth Precinct Station, 1.
838	31.38	33,364	7.88	25.12	107	0.17	196,259	Thirteenth Precinct Station, 1.
709	28.07	23,436	7.53	31.70	96	0.15	176,240	Lying-in Asylum, 2; Fourteenth Precinct Station, 4.
1125	53.42	27,587	21.78	40.78	198	0.31	88,990	Foundling Hospital, 719; Fifteenth Precinct Station, 3.
1007	28.80	48,359	5.99	20.82	384	0.60	80,598	Samaritan Home, 2; Theological Seminary, 1; Sixteenth Precinct Station, 2.
2234	31.87	95,365	7.46	23.43	331	0.52	183,394	Seventeenth Precinct Station, 1.
1252	28.99	59,593	6.09	21.01	593	0.93	64,078	Home for Respectable Aged and Indigent Women, 2.
3890	36.81	86,090	16.63	45.18	1,530	2.39	36,021	R. C. Orphan Asylum, 12; Presbyterian Home, 4; Inebriate Asylum, 1; Hahnemann's Hospital, 1; Home for Ruptured and Crippled, 7; City Lunatic Asylum, 173; Almshouse, 124; Penitentiary, 5; Small-pox, 546; Charity Hospital, 581; Epileptic and Paralytic Hospital, 21; Colored Home Hospital, 140; Nursery and Child's Hospital, 126; St. Luke's Hospital, 120; Hebrew Orphan Asylum, 1; Workhouse, 30; Woman's Hospital, 8; German Hospital, 94; Fever Hospital, 40; Nineteenth Precinct Station, 2.
1941	29.83	75,407	7.68	25.74	435	0.68	110,892	Mount Sinai Hospital, 45; Institution for the Blind, 1; St. Vincent de Paul's, 1; St. Mary's Hospital, 2; House of the Little Sisters of the Poor, 5; Twentieth Precinct Station, 2; Twenty-ninth Precinct Station, 1.
2188	17.55	56,703	6.77	38.59	472	0.74	76,625	Bellevue Hospital, 1,103; Morgue, 34; Home of the Friendless, 18; in ambulance on way to Hospital, 2.
1740	33.16	71,349	8.09	24.38	1,420	2.22	32,139	Ladies' Union Aid Institution, 4; Roosevelt Hospital, 8; Home for Aged and Infirm, 1; New York Orphan Asylum, 1; Twenty-second Precinct Station, 3.
26,976	31.00	942,292	8.87	28.63	10,722	16.75	56,256	Total in Institutions, 5,155, exclusive of 34 found in Morgue.

* The irregular tongue on Manhattan Island, north of One Hundred and Forty-fifth Street, remains comparatively unpopulated. Its area, 1,980 acres, gives to the Twelfth Ward a total of 8½ square miles. The pro rata of population upon total area of the Ward would be 5.587 to the square mile.

242 males and 219 females. Among those of 20 years old and over there were 212 males and 132 females. As we noticed in the report for 1870, this large difference in adults is due to the fact that among the classes most exposed to the infection the females are afforded much better facilities for revaccination than the males—the latter being almost invariably absent at work during the visits of the Sanitary Inspectors to their wives and children at home, and being, moreover, less willing to accept the boon when it can reach them.

As regards age the deaths were thus distributed: 132 under 1 year of age, 199 under 2, 295 under 5, 411 under 15, 558 under 25, 714 under 35, 766 under 45, 794 under 55, 801 under 60, 1 between 60 and 65, 1 between 65 and 70, 1 between 75 and 80, and 1 between 80 and 85.

The prevalence of Small-pox in this city during the past year, although unexampled here, was inconsiderable in comparison with its ravages in many other places throughout the world. We may simply instance among the large foreign cities the Hague, London and Berlin. In the Hague,* whose people have always evinced a peculiar antipathy against vaccination, the mortality from Small-pox in the first quarter of 1871 was appalling, reaching the enormous annual rate of 48 in the thousand inhabitants, or nearly double that of London from all causes. Had the same rate prevailed in New York, it would have given us 7,500 deaths from Small-pox in the first quarter of the year. In Berlin there were 4,971 fatal cases during the year. The equivalent number in New York would have been 5,700. In London, 7,876 deaths from this cause were registered within the year, and in a single week, (that ending May 6th,) they amounted to 288. The same annual death-rate here would have yielded 2,300 deaths. Turning our observation to this side of the Atlantic, we find the most conspicuous example in the city of Philadelphia which began in the latter part of September to be scourged terribly by the same epidemic. From that time until the close of the year there were reported 1800 fatal cases. In the week ending December 2nd there were recorded 233 deaths. The highest weekly number in New York was 34 in the week ending April 1st. The accompanying diagrams illustrate much more graphically than any verbal description the comparative course and extent of Small-pox in Berlin, London, Philadelphia and New York throughout the past year, and exhibit the fact that this city suffered to a much less degree than either of the others.

In the City of Havana, Cuba, Small-pox occasioned 1,126 deaths during the year 1871, out of a total of 9,174 from all causes.

Measles.—The deaths from Measles amounted to 409, against 298 in the previous year, and 526 in 1869. 384 were in children less than five years old, and 3, all women, in adults.

Scarlatina.—The deaths from Scarlatina were not so numerous as usual—amounting to 791. The disease was most prevalent in the early portion of the year. The sexes were nearly equally divided, there having been cut off 397 males and 394 females.

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* The death-rate from small-pox alone during the whole year in the Hague and Rotterdam was 14 per thousand inhabitants.

OPTIC CHART

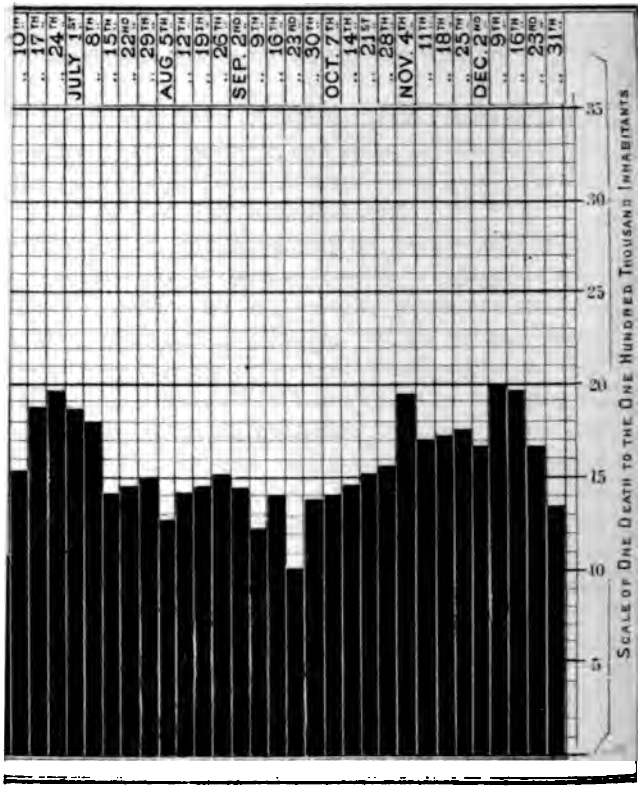
PER 100,000 INHABITANTS FROM SMALL POX

IN

LIN AND LONDON—

1871.

BERLIN.



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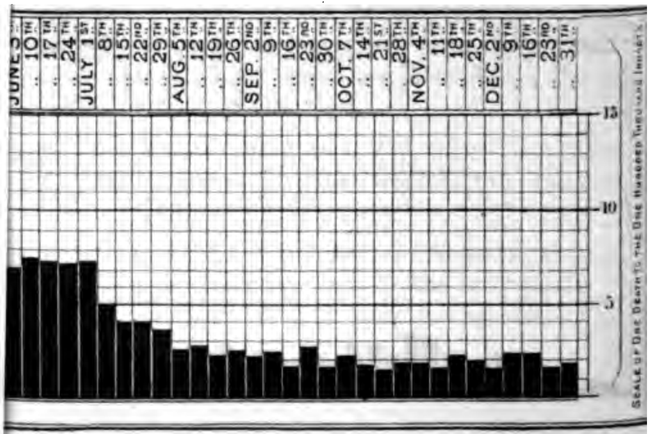

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ILLUSTRATING THE MORTALITY PER 100,000 INH

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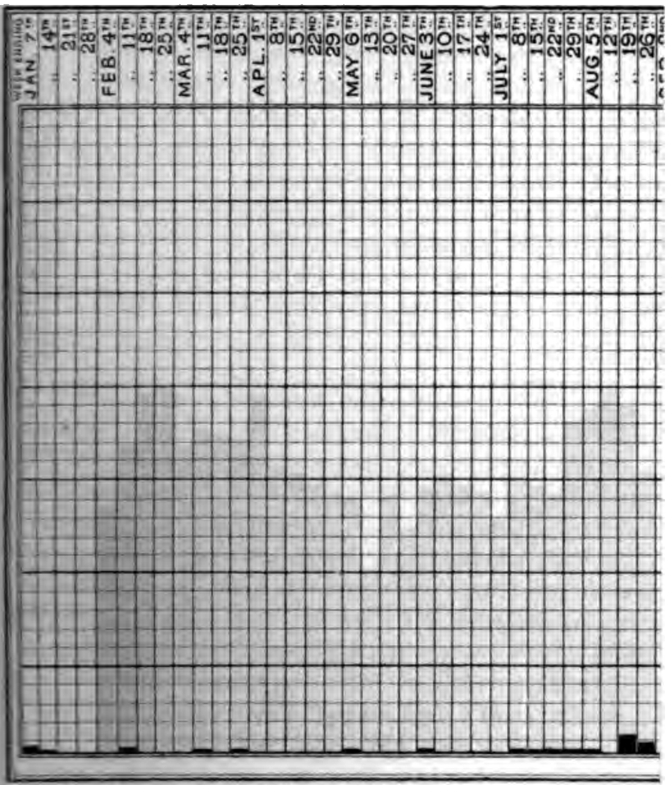
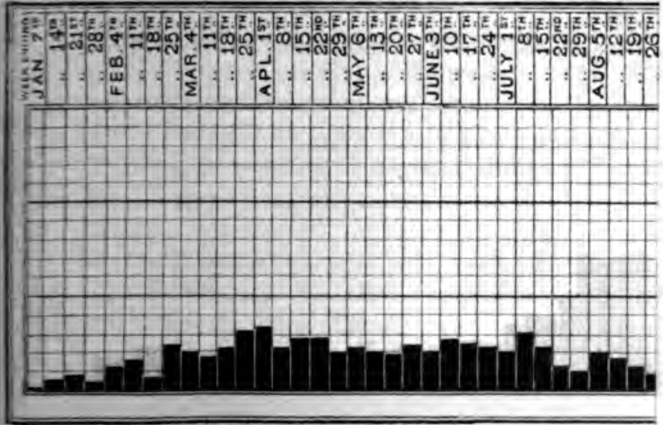


Prepared under Direction of Register of Records by S.P. Russel Jr.

NEW YORK



Prepared under Direction of Register of Records by S.P. Russel Jr.

Diphtheria and Croup.—Diphtheria occasioned 238 deaths and Croup 466—about the same number together as in the previous year. Diphtheria and Croup appear to be often confounded, either the former term or that of Diphtheritic Croup being employed quite commonly in place of the latter. During 1870 there were reported 241 fatal cases of Diphtheria in children under five years of age, against 381 of Membranous Croup, and in 1871 the number stood as 183 to 425. It is almost indisputable that except in seasons of undoubted and well recognized epidemics the general experience of the profession should exhibit a much smaller proportion of genuine Diphtheria, even if its relative fatality be greater than that of Croup. The numerous class of unscrupulous charlatans who unfortunately are permitted to carry on what in their case may be more aptly termed a trade than a profession—a trade in human health and life, are in the habit of designating as Diphtheria the simple Tonsillitis with white or grayish patches; and thus they impose upon their credulous patients the idea of their having treated, and generally with success, a very formidable affection.

Whooping Cough.—Whooping Cough displayed a very unusual activity during the year, having carried off 465 victims. This is the greatest number of lives which it has destroyed in this city in any year of the present century, the next largest having been 377 in 1855. Of the 465 deaths 196 were in males and 269 in females. The great preponderance of females over males was noticed by us in a former report as being uniformly characteristic of this affection*—at least in its fatal cases—and it has never been, so far as we are aware, satisfactorily explained. The principal complications of the disease, returned upon certificates of death were as follows: Pneumonia in 87 instances, Bronchitis in 55, Convulsions in 39, Tuberculosis in 13, Diarrhœa in 16, Meningitis and Marasmus in 8 respectively; Congestion of the Brain, Hydrocephalus, Broncho-Pneumonia and Dentition, each in 7. These constituted considerably over half the cases; 198 were returned without any complicating cause being specified. The disease did not assume a specially epidemic character until the beginning of August, after which it continued with much severity till the close of the year.

Typhus and Typhoid Fevers.—The former of these diseases was credited with only 65 deaths, against 96 in the preceding year. The fatality of Typhus has been steadily diminishing since 1864, when 764 persons were carried off by it. It is satisfactory, also, to note a very great decline in that of Typhoid Fever during the past year, it having produced but 239 deaths, against 422 in 1870.

Remittent, Intermittent and Typho-malarial Fevers.—165 deaths were referred to Remittent Fever, 110 to Intermittent, and 12 to Typho-malarial. These fevers were extraordinarily fatal. Although in many instances they were clearly derived from terrestrial emanations, there have been other cases in residents of populous and salubrious neighborhoods, persons who have, apparently, never been exposed to what have been regarded as the essential causes of these diseases. New York City is undoubtedly participating in the subtile miasmatic influence which recently has invaded and overspread large territories, hitherto exempt, in the North-Eastern States. In the past year the term Typho-malarial, which originated we believe during the War of the Rebellion, was revived. The first cases were classed with Typhoid Fever, but after a time we deemed it proper to give the disease a distinct position in our classification. When used, as it sometimes is, to signify the asthenic form of Remittent or Intermittent, it would be more to the purpose, we think, for physicians to substitute those terms. A few of such cases, however, have we are informed been examples of *continued* fever, dependent, it would seem, on marsh-miasm, non-contagious, and devoid of the lesions characteristic of *Typhoid*. In other instances there has been a suspected but undemonstrated co-existence of the two specific poisons. The designation "typho-malarial" would appear a very appropriate and significant one for the two last varieties. The accompanying tables show the exact localities where deaths from Remittent, Intermittent and Typho-malarial fevers occurred. Of 154 deaths from Remittent Fever throughout the city, outside of hospitals, 59 took place in the region from 40th Street to Harlem river, and 55 deaths from Intermittent and 10 from Typho-malarial occurred in the same territory; a large proportion of deaths for that section of the city, considering its population.

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*Of 9,008 deaths by Whooping Cough exhibited by the U. S. Census of 1870 there were 3,987 males and 5,021 females.

The following were the principal immediate or complicating causes of death distinguished upon certificates of Remittent Fever: 45 cases were certified simply as Remittent or Bilious Fever, 10 as Typhoid Remittent, 8 as Congestive Remittent, 9 with Congestion of the Brain, 8 with Meningitis, 8 with Hydrocephalus, 3 with Convulsions, 7 with Bronchitis, 6 with Pneumonia, 18 with Gastritis, 4 with Enteritis, 3 with Diarrhœa, 3 with Disease of Liver, and 5 with Nephritis. Of Intermittent Fever there were returned 24 cases simply as Intermittent, 2 with Apoplexy, 2 with Convulsions, 13 with Congestion of the Brain, 6 with Meningitis, 2 with Congestion of Lungs, 3 with Bronchitis, 9 with Pneumonia, 4 with Gastritis, 8 with Diarrhœa, and 4 with Dropsy.

TABLE No. XVII.

TABLE SHOWING THE LOCALITIES OF DEATHS FROM REMITTENT FEVER.

Street.	Number of Cases	Houses in which Deaths occurred.
Audubon Park, 157th Street, bet. 9th and 10th Avenues	1	No Number.
147th St., bet. 6th & 7th Avs.	1	"
139th Street, near 8th Avenue	1	"
East 127th Street	1	139
3d Ave., bet. 126th & 127th Sts.	1	No Number.
East 119th Street	2 { 1	445
East 119th Street	1	236
East 114th Street	1	346
111th St., bet. 9th & 10th Avs.	1	No Number.
110th St., bet. 9th & 10th Avs.	1	"
109th St., near 5th Avenue	1	"
3d Ave., bet. 105th & 106th Sts.	1	"
99th Street, bet. 8th & 9th Avs.	2	No Numbers
97th Street, bet. Boulevard and 11th Avenue	1	No Number.
96th Street and 9th Avenue	1	"
3d Ave., bet. 93d and 94th Sts.	1	1650
East 92d Street	1	No Number.
3d Ave., bet. 87th & 88th Sts.	1	1561
West 84th Street	1	84
82d Street, near Boulevard	1	No Number.
3d Ave., bet. 80th & 81st Sts.	1	1412
3d Ave., bet. 77th & 78th Sts.	1	1369
77th Street, East of Boulevard	1	No Number.
East 75th Street, bet. 3d and Lexington Avenues	1	"
N. E. corner of Broadway and 75th Street	1	"
East 75th Street, near 3d Ave.	1	120
70th Street, near 11th Avenue	1	No Number.
Boulevard, bet. 68th & 69th Sts.	1	"
East 65th Street	1	119
63d Street, near Madison Ave.	1	No Number.
West 59th Street	1	611
East 58th Street	1	408
3d Ave., bet. 57th & 58th Sts.	1	960
3d Ave., bet. 55th & 56th Sts	1	917
3d Ave., bet. 54th & 55th Sts.	1	898
2d Ave., bet. 54th & 55th Sts.	1	1033
East 53d Street	1	161
7th Ave., bet. 51st & 52d Sts.	1	769
3d Ave., bet. 51st & 52d Sts.	1	850
West 51st Street	1	325
West 49th Street	1	546
1st Ave., bet. 47th & 48th Sts.	1	856
8th Ave., bet. 46th & 47th Sts.	1	757
11th Ave., bet. 44th & 45th Sts.	1	598
2d Ave., bet. 44th & 45th Sts.	1	832
East 43d Street	1	146
West 43d Street	1	470
West 42d Street	2	258, 551
West 41st Street	2	342, 445
10th Ave., bet. 41st & 42d Sts.	1	560
11th Ave., bet. 41st & 42d Sts.	2	540, 546
Lexington Ave., bet. 40th and 41st Streets	1	369
West 40th Street	1	440
West 37th Street	1	208
Madison Ave., bet. 36th and 37th Streets	1	220
7th Ave., bet. 36th & 37th Sts.	1	486
9th Ave., bet. 36th & 37th Sts.	1	481
West 36th Street	3	49, 262, 433
West 35th Street	1	411
2d Ave., bet. 34th & 35th Sts.	1	637
On board of Canal Boat, foot of East 32d Street	1	....
West 31st Street	2	444, 456
East 31st Street	1	326
West 30th Street	1	153
East 29th Street	1	233
On board of Canal Boat, foot of West 28th Street	1	....
West 28th Street	1	504
10th Avenue, between 27th and 28th Streets	1	304
West 27th Street	3	202, 222, 241
9th Ave., bet. 25th & 26th Sts.	1	263
East 24th Street	1	329
West 24th Street	1	342
West 23d Street	1	342
3d Avenue, bet. 22d & 23d Sts.	1	284
East 20th Street	1	226
East 19th Street	3	109, 412, 421
West 19th Street	1	129
East 18th Street	3	35, 230, 415
West 16th Street	1	447
East 16th Street	1	325
East 14th Street	1	441
East 12th Street	2	510, 639
East 11th Street	2	347, 426
Horatio Street	1	80
East 10th Street	1	421
Jane Street	1	92
Charles Street	1	117
7th Avenue	1	15
Greenwich Avenue	1	30
7th Street	1	185
5th Street	1	636
East 4th Street	1	123
Jones Street	1	29
3d Street	1	23
Clarkson Street	1	46
Sullivan Street	1	218
1st Street	1	61
Bleecker Street	1	151
West Houston Street	1	151
East Houston Street	1	65
Willett Street	1	116
Stanton Street	2	42, 212
Mott Street	2	205
Mulberry Street	2	208, 214½
Spring Street	2	69, 249
Hudson Street	2	648, 252
Broome Street	1	338
Pitt Street	2	7, 35
Grand Street	2	48, 521
Hester Street	1	7
Monroe Street	1	305
Scammel Street	2	36½, 58
Elm Street	1	208
Henry Street	1	189
Laight Street	1	32
Suffolk Street	1	121
Orchard Street	1	158
Norfolk Street	2	115, 3
Attorney Street	1	124
Forsyth Street	1	67
Eldridge Street	1	52½
Essex Street	1	38
Chrystie Street	2	74, 17
Catharine Street	2	22
Baxter Street	1	53
Cherry Street	1	123
William Street	1	228
Chatham Street	1	115
In Hospitals	11	....
Total	165	...

TABLE No. XVIII.

TABLE SHOWING THE LOCALITIES OF DEATHS FROM INTERMITTENT FEVER.

Street.	Number of Cases.	Houses in which Deaths occurred.
"Inwood," 190th Street	1	No Number.
165th Street, between 10th and 11th Avenues	1	"
144th Street, near 8th Avenue.	1	"
143d Street, near 8th Avenue	2	No Numbers
133d Street, between 5th and 6th Avenues	1	No Number.
West 128th Street	1	43
127th Street, near 4th Avenue.	1	No Number.
126th Street, near 12th Avenue	1	"
126th Street	1	"
East 124th Street	1	"
East 123d Street	1	236
1st Avenue, between 119th and 120th Streets	1	No Number.
118th Street, near 5th Avenue.	2	No Numbers
East 117th Street	1	137
114th Street, near 9th Avenue.	1	No Number.
East 112th Street	1	248
110th Street, between 9th and 10th Avenues	1	No Number.
East 109th Street	1	202
East 106th Street	1	212
3d Avenue, near 104th Street	1	No Number.
103d Street, between 9th and 10th Avenues	1	"
100th Street, between 9th and 10th Avenues	1	"
99th Street, between 8th and 9th Avenues	2	No Numbers
96th Street, near 5th Avenue	1	No Number.
90th Street, between 4th and 5th Avenues	1	"
87th Street, near Boulevard	1	"
West 84th Street	1	84
84th Street, near 11th Avenue	1	No Number.
East 84th Street	1	"
83d Street, near 10th Avenue	1	"
82d Street, near 9th Avenue	1	"
81st Street, near 8th Avenue	1	"
81st Street, between 9th and 10th Avenues	1	"
80th Street, between 9th and 10th Avenues	1	"
N. W. corner of 75th Street and 8th Avenue	1	"
71st Street, between 1st and 2d Avenues	1	"
71st Street, between 8th and 9th Avenues	1	"
3d Avenue, between 70th and 71st Streets	1	1218
10th Avenue, near 69th Street.	1	No Number.
10th Avenue, between 65th and 66th Streets	1	"
8th Avenue, near 64th Street	1	"
62d Street, near Madison Ave.	1	"
60th Street, between 10th and 11th Avenues	1	"
S. W. corner of 1st Avenue and 59th Street	1	No Number.
2d Avenue, between 53d and 54th Streets	1	1008
West 54th Street	1	549
West 52d Street	1	143
East 50th Street	1	422
East 47th Street	1	336
West 46th Street	1	618
West 43d Street	1	349
9th Avenue, between 41st and 42d Streets	1	567
West 36th Street	1	438
11th Avenue, between 35th and 36th Streets	1	420
West 32d Street	3	146, 443, 457
West 30th Street	1	502
West 28th Street	1	511
West 25th Street	1	329
East 25th Street	2	305, 317
1st Avenue, between 23d and 24th Streets	1	407
East 16th Street	1	336
West 12th Street	1	249
East 10th Street	1	393
Charles Street	1	52
West 10th Street	1	197
7th Street	1	261
Christopher Street	1	146
Grove Street	1	34
East Washington Place	1	29
5th Street	2	412, 525
Avenue D	1	103
2d Avenue	1	40
West Houston Street	1	248
King Street	1	99
Ridge Street	1	87
Cannon Street	1	87
Sheriff Street	1	50
Mott Street	1	181
Elm Street	2	23, 194
Mercer Street	1	101
Greene Street	1	96
Sullivan Street	1	83
Laurens Street	1	79
Grand Street	1	40
Vestry Street	1	29
Greenwich Street	1	478
Eldridge Street	1	95
Forsyth Street	1	74
Baxter Street	1	70
Allen Street	1	1
Oliver Street	1	67
Roosevelt Street	1	93
Pearl Street	1	496
Madison Street	1	7
In Hospitals	8	....
Total	110	....

TABLE No. XIX.

TABLE SHOWING LOCALITY OF DEATHS FROM TYPHO-MALARIAL FEVER.

STREET.	NO. OF CASES.	HOUSES IN WHICH DEATHS OCCURRED.
97th Street, bet. Boulevard and Eleventh Ave........	1	No Number
West 84th Street..................................	1	84
75th Street, near Third Ave........................	1	No Number
75th Street, bet. Third and Lexington Aves...........	1	No Number
East 65th Street..................................	1	119
63d Street, near Madison Ave......................	1	No Number
Third Avenue, bet. 55th and 56th Sts................	1	917
" " " 51st and 52d Sts.................	1	850
Second " " 50th and 51st Sts..................	1	960
West 49th Street..................................	1	546
Madison Avenue, bet. 86th and 87th Sts..............	1	220
In Hospital.......................................	1	
TOTAL......................	12	

Relapsing Fever.—Only 80 cases of Relapsing Fever were reported during the year to the Bureau of Sanitary Inspection, and the deaths were but 6. It may be said, therefore, to have been virtually extinguished.

Yellow Fever.—There were registered two deaths from Yellow Fever, one having occurred at Bellevue Hospital, and the other at the Fever Hospital, Blackwell's Island. In neither was the diagnosis unequivocal, but it was confirmed by autopsy which revealed in each case black blood in the stomach, acute fatty degeneration of the liver, and acute desquamative nephritis. The man who died at Bellevue Hospital had passed Quarantine on the Steamer "Cleopatra" without detection, although sick then, being on deck; but on arriving at the city he was sent to the hospital where his disease was pronounced to be Yellow Fever. On the return of the vessel to this port it was ascertained that other cases had occurred on board, and that this man had been ill several days before her arrival but was mustered on deck in order to evade quarantine. Instances of this sort doubtless occur every year.

Puerperal Fever.—Puerperal Fever was particularly fatal in 1871. It carried off 80 women, against 63 in 1870, and 55 in 1869 and 1868 respectively. Its deaths were most numerous in the first quarter of the year, and at the same time Erysipelas was also very prevalent. The idea that some mysterious relation exists between these two affections would seem to be strengthened by the fact that an almost uniform proportion of mortality was maintained between them during the year, as the following statement illustrates:

Deaths from	Winter Quarter.	Spring Quarter.	Summer Quarter.	Autumn Quarter.
Puerperal Fever	30	20	12	18
Erysipelas	54	50	18	23

Diarrhœal Diseases.—3,653 deaths were due to Diarrhœal Diseases. For reasons upon which we dwelt at some length in the report for 1870, we have discarded the term Cholera Infantum from our vocabulary of these affections. We may be allowed to reiterate those reasons in a few words. The late distinguished Prof. Sam'l Henry Dickson, of Philadelphia in a recent article upon registration and nomenclature took occasion to criticise the term Cholera Infantum as a trivial and unmeaning one on account of its not specifically designating any separate disease, and even if it did as being mostly impossible of diagnosis. A view which we had long entertained was thus endorsed by high authority. Our experience here has only confirmed it in daily teaching us that the certificates in such cases are entirely useless for any separate statistical expression. The numerous terms "Summer Complaint," Cholera Infantum, Diarrhœa, Enteritis, Entero-Colitis, Gastro-Enteritis, Intestinal Catarrh, Gastro-Intestinal Catarrh, and Muco-Enteritis, come to us employed indiscriminately by different physicians. According to our returns Cholera Infantum is a disease of all seasons—of duration from a few hours to many months—and of occurrence in children up to ten years of age, as appears by a table in the Report of the Metropolitan Board of Health for 1869. Could the employment of this expression be restricted universally to that sudden and violent form of infantile diarrhœa which corresponds to Cholera Morbus in older persons, it would be useful in presenting some more definite idea of the character of the disease; but unfortunately, as now used, its vagueness deprives it of significance. We have, therefore, incorporated all deaths from Cholera Infantum among those simply certified as resulting from Diarrhœa.

The deaths from Diarrhœal Diseases were less by 303 than in 1870. As we have remarked they exhibited in the Spring months an earlier tendency to a large fatality than in the previous year—but their course was subsequently modified by the salubrity of the warm season. Of the whole number of deaths 1896 were in males and 1757 in females. 68 per cent. were under one year old, 86 per cent. under two years, and 89 per cent. under five years; the proportion of these deaths in young children being larger than in 1870.

ENTHETIC DISEASES.

Hydrophobia.—The fatal cases of Hydrophobia amounted to 7—an unusually large number. They were all in males aged respectively 8, 14, 19, 31, 38, 40 and 41 years, and occurred as follows: 1 in January, 1 in May, 2 in July, 1 in September and 2 in November. The person who died in January had been bitten in the previous November, and expired eleven days after the first symptoms of the disease. The person who died in May had been bitten in the previous April and expired two weeks after the first symptoms. One person who died in July had been bitten in the previous April and the other in the previous May. They both expired a few days after the first symptoms. The person who died in September had been bitten in the previous March and expired one day after the first symptoms. One person who died in November had been bitten in the previous October and the other was reported to have been bitten eight years before. The former expired two weeks and the latter a few days after the first symptoms. According to the above account the longest period of incubation was eight years. The information, however, obtained in this instance was far from reliable. In the remaining cases the victims had been bitten respectively: 6 months, 3 months, 2 months, 6 weeks, 2 weeks and 1 week previous to any appearance of the disease. Of the six authentic cases one had been bitten in March, two in April, one in May, one in October, and one in November. A similar history as regards the comparative rarity during the "dog days" of canine hydrophobia characterized the cases reported in 1870, and is the best argument to prove the absurdity of any ordinance prohibiting only in the Summer months the running at large of dogs unmuzzled. It is noticeable that in one of the cases mentioned the disease was attributed to the circumstance of a pet dog's having *merely licked* his master's face; the animal shortly afterwards manifested undoubted signs of rabies and was killed.

It may be interesting in alluding to the means for protecting the public against the propagation of this dreadful affection to mention an old tradition according to which the excision of a worm, said to exist beneath the puppy's tongue, proves an infallible preventive against the communication, or as some believe, against even the contraction of the disease. This has been called by the Germans "Tollwurm," that is to say, "the worm of madness." So popular was this superstition at one time that in 1753 there existed in Prussia an ordinance requiring all owners of dogs to submit them to this mutilation at the hands of an experienced operator. This ordinance was rendered more specific by a royal decree of Feb. 20th, 1767, establishing an authorized corps of operators who were obliged to visit semi-annually every house containing a dog, to operate upon each animal, and to furnish the master thereof with a certificate to that effect. The edict prescribed, likewise, that every dog should be so treated before it became six months old, and condemned persons violating the law to pay a fine of fifty Prussian Crowns, or, in default thereof, to suffer an imprisonment of one month. In 1786 a similar law prevailed in Hanover.

This so-called *worm* was explained by some to be a *vein* whose absence in a dog attacked with Hydrophobia induces immediate engorgement of the throat and asphyxia. Others regarded it as the tendon of the genio-glossus muscle. It was considered, however, by the best authorities to be the duct of the sub-maxillary gland. As to the advantages of the operation there existed even among distinguished physicians considerable uncertainty of opinion. Fothergill, among others, in a celebrated treatise upon Hydrophobia, remarked that nothing was definitely settled relative to the utility of the operation, but that it was to be presumed that the whitish vermiform substance thus removed is nothing but the canal which forms part of the salivary apparatus, whose destruction might possibly exercise some influence upon the secretion in diminishing to a certain extent the liquid by which the virus is transmitted. The whole theory, however, was substantially demolished in 1786 in the very country where it was most in vogue. In that year a rabid dog near the village of Trieglitz, Prussia, bit a shepherd's dog which was shortly afterwards seized with rabies and in turn communicated it to several cows. Both of these dogs were proven by authentic certificates to have previously undergone the prescribed operation. The sanitary physicians of the district assembled to investigate the subject, and numerous instances were brought to their notice of Hydrophobia having been imparted to both animals and men by dogs whose "Tollwurm" had been extirpated in the most approved manner. These facts led to the enactment of a new ordinance suppressing the corps of operators created by the edict of 1767. Subsequently, in the same year (1786) the authorities of the province of Detmold convoked a similar commission of investigation, the result of whose inquiries confirmed fully the conclusions derived from the facts previously mentioned.

Syphilis.—142 deaths resulted from syphilis—71 of each sex; 120 were cases of congenital disease. This affection was unusually fatal, having caused 106 deaths in 1870 and but 77 in 1869.

TABLE No. XX.

TABLE OF DEATHS DUE DIRECTLY OR REMOTELY TO INTEMPERANCE,

SHOWING THE ORGANIC DISEASES CONNECTED THEREWITH, WITH NATIVITY, AGE, &c., OF EACH VICTIM.

	Total Number of Cases.	CONDITION.				NATIVITY.												AGE.	
		Single.	Married.	Wid.	Unknown.	United States.	Ireland.	Germany.	Canada.	Denmark.	England.	Hungary.	Italy.	Scotland.	Sweden.	Switzerl'd.	Unknown.	15 to 20	
																		M.	F.
Accidents—																			
Burns from Hot Water	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Fracture of Skull	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Run over by Stage	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Run over by Street Car	1	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Falls	13	2	6	3	2	1	9	1	..	1	..	..	..	..	..	1	..	..	..
Anæmia of Brain	1	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Anasarca	2	..	2	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..
Apoplexy	13	2	7	1	3	4	7	1	..	..	..	..	..	..	..	..	1	..	..
“ (Congestion of Liver)	1	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Atrophy of Brain	1	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Ascites	2	..	1	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..
Asthenia	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Bleeding from Stomach and Nose	1	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Bright's Disease	61	7	32	16	6	12	38	5	1	..	2	..	..	1	..	..	2	..	..
“ “ Cirrhosis of Liver	9	1	5	2	1	3	3	2	..	..	1	..	..	..	..	..	..	..	..
“ “ Diarrhœa	2	..	1	..	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..
“ “ Disease of Heart	2	..	2	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	1
“ “ “ “ Fatty Liver	3	..	3	..	..	1	1	1	..	..	..	..	..	..	..	..	..	..	..
“ “ Enteritis	1	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
“ “ Erysipelas	1	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
“ “ Fatty Liver	11	3	5	2	1	1	9	..	..	..	1	..	..	..	..	..	..	..	..
“ “ Gastritis	3	..	3	..	..	1	2	..	..	..	..	..	..	..	..	..	..	..	..
“ “ Phthisis, Fatty Heart	2	..	2	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..
“ “ Pleuro-Pneumonia	1	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
“ “ Pneumonia	1	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Bronchitis	5	2	1	2	..	..	4	..	..	..	1	..	..	..	..	..	..	..	..
Child-birth, Remittent Fever	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Compression of Brain	1	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..

TABLE No. XX.—*Continued.*

TABLE OF DEATHS DUE DIRECTLY OR REMOTELY TO INTEMPERANCE,

Showing the Organic Diseases connected therewith, with Nativity, Age, &c., of each Victim.

	Age.																							
	20 to 25		25 to 30		30 to 35		35 to 40		40 to 45		45 to 50		50 to 55		55 to 60		60 to 65		65 to 70		70 to 75		Unkn'wn	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Accidents—																								
Burns from Hot Water	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fracture of Skull	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Run over by Stage	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Run over by Street Car	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Falls	..	..	1	1	1	1	..	..	1	2	2	..	2	..	..	..	1	..	..	..	1	..	..	..
Anæmia of Brain	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
Anasarca	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..
Apoplexy	..	..	1	1	..	..	2	1	..	..	3	..	..	1	2	..	1	..	..	..	..	..	..	1
" (Congestion of Liver)	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Atrophy of Brain	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ascites	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Asthenia	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Bleeding from Stomach and Nose	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Bright's Disease	..	2	3	1	2	3	3	9	6	4	2	7	3	3	2	..	3	4	2	1	1	..	..	..
" " Cirrhosis of Liver	..	..	..	..	..	..	2	1	2	1	..	1	1	1	..	..	..	..	..	..	..	..	..	..
" " Diarrhœa	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" " Disease of Heart	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
" " " " Fatty Liver	..	..	..	..	..	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" " Enteritis	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
" " Erysipelas	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
" " Fatty Liver	..	1	1	3	..	1	..	2	1	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..
" " Gastritis	1	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..
" " Phthisis, Fatty Heart	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..
" " Pleuro-Pneumonia	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" " Pneumonia	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bronchitis	..	..	..	..	1	..	1	..	1	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..
Child-birth, Remittent Fever	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Compression of Brain	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

TABLE No. XX.—*Continued.*

TABLE OF DEATHS DUE DIRECTLY OR REMOTELY TO INTEMPERANCE,

SHOWING THE ORGANIC DISEASES CONNECTED THEREWITH, WITH NATIVITY, AGE, &C., OF EACH VICTIM.

	Total Number of Cases.	CONDITION.				NATIVITY.												AGE.	
																		15 to 20	
		Single.	Married.	Wid.	Unknown.	United States.	Ireland.	Germany.	Canada.	Denmark.	England.	Hungary.	Italy.	Scotland.	Sweden.	Switzerl'd.	Unknown.	M.	F.
Congestion of Brain	31	8	12	7	4	7	18	5	..	..	..	..	..	..	..	..	1	1	..
" Lungs	6	3	3	..	..	2	3	..	..	..	..	..	..	..	1	..	..	..	..
" Viscera	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Convulsions	3	1	..	..	2	1	1	..	..	..	..	..	..	..	..	..	1	..	..
Diarrhœa	15	1	11	3	..	..	9	3	..	..	2	..	..	1	..	..	..	..	..
" Bronchitis	1	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Encephalitis	5	..	4	..	1	2	1	1	..	..	..	..	..	1	..	..	..	..	..
" Paralysis	1	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Enteritis	2	1	1	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..
Epilepsy	1	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
" Apoplexy	1	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
" Use of Tobacco	1	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..
Erysipelas	3	..	1	1	1	..	2	1	..	..	..	..	..	..	..	..	..	..	..
" Pneumonia	1	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Excessive Vomiting	2	..	2	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..
Exposure	1	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Gastritis	17	2	11	8	1	2	11	1	..	..	2	..	..	1	..	..	..	..	..
" Disease of Heart	1	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
" Nephritis	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Gastro-Enteritis	2	..	2	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..
Hæmatemesis	1	..	1	..	..		1	..	..	..	..	..	..	..	..	..	..	..	..
" Disease of Heart and Kidneys, Fatty Liver	1	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Hæmorrhage of Bladder	1	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Heart, Disease of	9	2	6	..	1	..	8	..	..	..	..	..	..	1	..	..	..	..	..
" " Fatty Liver	2	..	1	..	1	..	2	..	..	..	..	..	..	..	..	..	..	..	..
" " " and Kidney	2	2	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..
" " Jaundice	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
" " Rheumatism	2	..	..	2	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..

TABLE No. XX.—*Continued.*

TABLE OF DEATHS DUE DIRECTLY OR REMOTELY TO INTEMPERANCE,

SHOWING THE ORGANIC DISEASES CONNECTED THEREWITH, WITH NATIVITY, AGE, &C., OF EACH VICTIM.

	Age.																							
	20 to 25		25 to 30		30 to 35		35 to 40		40 to 45		45 to 50		50 to 55		55 to 60		60 to 65		65 to 70		70 to 75		Unkn'wn	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Congestion of Brain	1	..	4	3	2	2	5	..	2	3	4	1	..	1	..	1	..	..	1	..	..	..	..	..
" Lungs	..	1	..	1	..	..	..	..	..	..	..	..	1	..	1	..	..	..	2	..	..	..	..	..
" Viscera	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Convulsions	..	..	..	..	..	..	1	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..
Diarrhœa	..	..	1	..	..	2	2	..	..	4	2	2	1	..	..	..	..	..	1	..	..	..	..	..
" Bronchitis	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Encephalitis	..	..	..	..	1	..	1	..	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
" Paralysis	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteritis	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Epilepsy	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Apoplexy	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Use of Tobacco	..	..	..	..	..	..	..	..	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Erysipelas	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Pneumonia	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Excessive Vomiting	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Exposure	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Gastritis	..	1	..	1	2	1	2	1	..	2	1	1	2	..	1	1	..	..	1	..	..	..	..	..
" Disease of Heart	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Nephritis	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gastro-Enteritis	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hæmatemesis	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Disease of Heart and Kidneys, Fatty Liver	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Hæmorrhage of Bladder	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Heart, Disease of	..	..	1	..	..	1	1	2	..	3	1	..	..	..	..	..	..	..	..	..	..	..	..	..
" " Fatty Liver	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..
" " " " and Kidney	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..
" " Jaundice	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
" " Rheumatism	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..

TABLE No. XX.– *Continued.*

TABLE OF DEATHS DUE DIRECTLY OR REMOTELY TO INTEMPERANCE,

SHOWING THE ORGANIC DISEASES CONNECTED THEREWITH, WITH NATIVITY, AGE, &C., OF EACH VICTIM.

	Total Number of Cases.	CONDITION.				NATIVITY.												AGE.	
																		15 to 20	
		Single.	Married.	Wid.	Unknown.	United States.	Ireland.	Germany.	Canada.	Denmark.	England.	Hungary.	Italy.	Scotland.	Sweden.	Switzerl'd.	Unknown.	M.	F.
Heart, Disease of, Syphilis, Hepatitis	1	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
" " Vomiting	1	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
" Fatty Degeneration of, Hepatitis	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..
" Hypertrophy of, Fatty Liver	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
" " " Pleuritis	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Hepatitis	3	1	1	..	1	1	1	..	..	..	..	..	..	..	..	..	1	..	..
" Remittent Fever, Nephritis	1	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Intemperance alone	95	32	37	12	14	24	46	11	..	..	5	..	1	..	1	..	4	..	1
Liver, Cancer of	1	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
" Cirrhosis of	21	1	13	4	3	3	13	1	..	..	..	..	..	..	..	1	1	..	..
" " Fatty Kidneys	1	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
" " Phthisis	2	..	2	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..
" Congestion of, and Kidneys	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
" Fatty Degeneration of, Congestion of Brain	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..
" Fatty	3	1	2	..	..	..	1	1	..	..	..	..	..	..	1	..	..	..	..
" " and Kidneys	6	..	5	..	1	..	5	1	..	..	..	..	..	..	..	..	..	..	..
" Hypertrophy of, Dropsy	2	..	1	1	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..
Malignant Pustule (Fly Bite)	1	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Meningitis	12	1	6	2	3	4	6	1	..	..	1	..	..	..	..	..	..	..	1
" Apoplexy	2	..	2	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..
" Fatty Liver and Kidneys, Dis. of Heart	1	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
" Hæmorrhage of Lungs	1	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Miscarriage	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
" Bright's Disease, Pulmonary Apoplexy	1	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Miscarriage, Metro-Peritonitis	1	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Œdema of Lungs (Contusion of Scalp)	1	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Old Age	1	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Paralysis	2	..	2	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..
" of Muscles of Deglutition	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..

TABLE No. XX.—*Continued.*

TABLE OF DEATHS DUE DIRECTLY OR REMOTELY TO INTEMPERANCE,

SHOWING THE ORGANIC DISEASES CONNECTED THEREWITH, WITH NATIVITY, AGE, &c., OF EACH VICTIM.

	AGE.																							
	20 to 25		25 to 30		30 to 35		35 to 40		40 to 45		45 to 50		50 to 55		55 to 60		60 to 65		65 to 70		70 to 75		Unkn'wn	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Heart, Disease of, Syphilis, Hepatitis	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
" " Vomiting	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
" Fatty Degeneration of, Hepatitis	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Hypertrophy of, Fatty Liver	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" " " Pleuritis	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hepatitis	..	..	..	..	1	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Remittent Fever, Nephritis	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Intemperance alone	5	3	11	2	7	3	15	6	8	1	10	..	11	2	1	1	3	2	..	..	2	..	1	..
Liver, Cancer of	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
" Cirrhosis of	..	..	..	..	..	2	1	5	1	3	1	..	1	1	1	..	4	..	..	..	1	..	..	..
" " Fatty Kidneys	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
" " Phthisis	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
" Congestion of, and Kidneys	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
" Fatty Degeneration of, Congestion of Brain	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Fatty	..	..	..	..	..	1	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
" " and Kidneys	..	..	1	..	..	..	..	1	1	..	..	..	1	1	1	..	..	..	..	..	..	..	..	..
" Hypertrophy of, Dropsy	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Malignant Pustule (Fly Bite)	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Meningitis	..	..	1	1	..	..	..	..	5	..	2	..	..	..	..	..	2	..	..	..	..	..	..	..
" Apoplexy	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
" Fatty Liver and Kidneys, Dis. of Heart	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
" Hæmorrhage of Lungs	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Miscarriage	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Bright's Disease, Pulmonary Apoplexy	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Metro-Peritonitis	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Œdema of Lungs (Contusion of Scalp)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
Old Age	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1(75)	..	..	..
Paralysis	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" of Muscles of Deglutition	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..

TABLE No. XX.– *Continued.*

TABLE OF DEATHS DUE DIRECTLY OR REMOTELY TO INTEMPERANCE,

SHOWING THE ORGANIC DISEASES CONNECTED THEREWITH, WITH NATIVITY, AGE, &C., OF EACH VICTIM.

	Total Number of Cases.	CONDITION.				NATIVITY.												AGE.	
																		15 to 20	
		Single.	Married.	Wid.	Unknown.	United States.	Ireland.	Germany.	Canada.	Denmark.	England.	Hungary.	Italy.	Scotland.	Sweden.	Switzer'd.	Unknown.	M.	F.
Heart, Disease of, Syphilis, Hepatitis	1	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
" " Vomiting	1	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
" Fatty Degeneration of, Hepatitis	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..
" Hypertrophy of, Fatty Liver	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
" " " Pleuritis	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Hepatitis	3	1	1	..	1	1	1	..	..	..	..	..	..	..	..	..	1	..	..
" Remittent Fever, Nephritis	1	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Intemperance alone	95	32	37	12	14	24	46	11	..	..	5	..	1	..	1	..	4	..	1
Liver, Cancer of	1	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
" Cirrhosis of	21	1	13	4	3	3	13	1	..	..	..	..	..	..	..	1	1	..	..
" " Fatty Kidneys	1	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
" " Phthisis	2	..	2	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..
" Congestion of, and Kidneys	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
" Fatty Degeneration of, Congestion of Brain	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..
" Fatty	3	1	2	..	..	..	1	1	..	..	..	..	..	..	1	..	..	..	..
" " and Kidneys	6	..	5	..	1	..	5	1	..	..	..	..	..	..	..	..	..	..	..
" Hypertrophy of, Dropsy	2	..	1	1	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..
Malignant Pustule (Fly Bite)	1	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Meningitis	12	1	6	2	3	4	6	1	..	..	1	..	..	..	..	..	..	..	1
" Apoplexy	2	..	2	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..
" Fatty Liver and Kidneys, Dis. of Heart	1	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
" Hæmorrhage of Lungs	1	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Miscarriage	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
" Bright's Disease, Pulmonary Apoplexy	1	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Miscarriage, Metro-Peritonitis	1	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Œdema of Lungs (Contusion of Scalp)	1	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Old Age	1	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Paralysis	2	..	2	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..
" of Muscles of Deglutition	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..

TABLE No. XX.—*Continued.*

TABLE OF DEATHS DUE DIRECTLY OR REMOTELY TO INTEMPERANCE,

SHOWING THE ORGANIC DISEASES CONNECTED THEREWITH, WITH NATIVITY, AGE, &C., OF EACH VICTIM.

	Age.																							
	20 to 25		25 to 30		30 to 35		35 to 40		40 to 45		45 to 50		50 to 55		55 to 60		60 to 65		65 to 70		70 to 75		Unkn'wn	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Heart, Disease of, Syphilis, Hepatitis	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
" " Vomiting	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
" Fatty Degeneration of, Hepatitis	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Hypertrophy of, Fatty Liver	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" " " Pleuritis	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hepatitis	..	..	..	..	1	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Remittent Fever, Nephritis	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Intemperance alone	5	3	11	2	7	3	15	6	8	1	10	..	11	2	1	1	3	2	..	..	2	..	1	..
Liver, Cancer of	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
" Cirrhosis of	..	..	..	..	..	2	1	5	1	3	1	..	1	1	1	..	4	..	..	..	1	..	..	..
" " Fatty Kidneys	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
" " Phthisis	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
" Congestion of, and Kidneys	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
" Fatty Degeneration of, Congestion of Brain	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Fatty	..	..	..	..	..	1	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
" " and Kidneys	..	..	1	..	..	..	..	1	1	..	..	..	1	1	1	..	..	..	..	..	..	..	..	..
" Hypertrophy of, Dropsy	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Malignant Pustule (Fly Bite)	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Meningitis	..	..	1	1	..	..	..	..	5	..	2	..	..	..	..	..	2	..	..	..	..	..	..	..
" Apoplexy	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
" Fatty Liver and Kidneys, Dis. of Heart	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
" Hæmorrhage of Lungs	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Miscarriage	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Bright's Disease, Pulmonary Apoplexy	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Metro-Peritonitis	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Œdema of Lungs (Contusion of Scalp)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
Old Age	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1(75)	..	..	..
Paralysis	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" of Muscles of Deglutition	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..

TABLE No. XX.—*Continued.*

TABLE OF DEATHS DUE DIRECTLY OR REMOTELY TO INTEMPERANCE,

SHOWING THE ORGANIC DISEASES CONNECTED THEREWITH, WITH NATIVITY, AGE, &C., OF EACH VICTIM.

	Total Number of Cases.	CONDITION.				NATIVITY.												AGE.	
																		15 to 20	
		Single.	Married.	Wid.	Unknown.	United States.	Ireland.	Germany.	Canada.	Denmark.	England.	Hungary.	Italy.	Scotland.	Sweden.	Switzerl'd.	Unknown.	M.	F.
Paraplegia	1	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Pericarditis, Fatty Liver	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Peritonitis	2	2	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..
" Premature Delivery	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
" Syphilis	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Phthisis	29	6	17	3	3	8	18	..	1	..	..	..	1	..	..	..	1	..	..
" Bright's Disease	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Pleuritis	4	..	2	2	..	2	2	..	..	..	..	..	..	..	..	..	..	..	..
Pneumonia	47	7	31	7	2	14	26	4	..	..	2	..	..	..	..	..	1	..	..
" Epilepsy	1	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
Rheumatism	3	..	2	1	..	1	1	1	..	..	..	..	..	..	..	..	..	..	..
Serous Effusion on Brain	1	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Softening of Brain	2	..	1	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..
Strangulated Inguinal Hernia	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Suicide, by Cutting Throat	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
" by Jumping from Railroad Train	1	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
" by Laudanum	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
" by Leaping from Window	2	1	1	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..
" by Taking Paris Green	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Sunstroke	3	1	2	..	..	1	2	..	..	..	..	..	..	..	..	..	..	..	..
Typhoid Fever	1	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
" Symptoms	1	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Uræmia	23	5	12	4	2	5	13	3	..	..	1	1	..	..	..	..	..	..	..
" Gastritis	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
" Phthisis	1	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Total	556	107	300	93	56	125	315	01	3	1	20	1	2	8	3	2	15	2	8

TABLE No. XX.—*Continued.*

TABLE OF DEATHS DUE DIRECTLY OR REMOTELY TO INTEMPERANCE,

SHOWING THE ORGANIC DISEASES CONNECTED THEREWITH, WITH NATIVITY, AGE, &C., OF EACH VICTIM.

	AGE.																							
	20 to 25		25 to 30		30 to 35		35 to 40		40 to 45		45 to 50		50 to 55		55 to 60		60 to 65		65 to 70		70 to 75		Unkn'wn	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Paraplegia	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pericarditis, Fatty Liver	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Peritonitis	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Premature Delivery	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Syphilis	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Phthisis	..	..	5	..	3	2	6	..	3	1	3	..	2	..	..	1	2	..	1	..	..	..	..	..
" Bright's Disease	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pleuritis	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..
Pneumonia	1	..	8	4	3	3	3	1	9	1	2	3	4	..	4	..	..	..	..	..	1	..	..	..
" Epilepsy	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rheumatism	..	..	..	..	..	..	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Serous Effusion on Brain	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Softening of Brain	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
Strangulated Inguinal Hernia	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Suicide, by Cutting Throat	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" by Jumping from Railroad Train	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" by Laudanum	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" by Leaping from Window	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" by Taking Paris Green	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Sunstroke	..	..	1	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Typhoid Fever	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Symptoms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Uræmia	1	..	1	1	..	2	2	1	2	3	2	3	1	..	2	..	..	1	1	..	..	..	..	..
" Gastritis	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Phthisis	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	8	30	38	25	29	35	48	54	47	36	47	26	31	20	16	9	18	9	8	3	7	..	1	1

Males, 300; Females, 256. Total, 556.

TABLE No. XXI.

OCCUPATIONS OF INEBRIATES.

Actors	1
Agents	1
Artists	1
Bakers	8
Barbers	1
Bartenders	7
Bill Posters	1
Blacksmiths	6
Boatmen	6
Boiler Makers	1
Brewers	1
Bricklayers	8
Brokers	2
Butchers	7
Carmen	9
Carpenters	18
Carriage Makers	2
Carriers	1
Carvers	1
Chimney Sweepers	1
Clerks	19
Conductors	8
Confectioners	8
Cooks, Female	1
" Male	1
Deputy Sheriffs	1
Domestics, Females	18
Dress Makers	1
Drivers	9
Druggists	1
Expressmen	2
Farmers	1
Firemen	2
Flower Makers	1
Foremen	1
Fruit Dealers	1
Gardeners	1
Gilders	1
Grocers	5
Hairdressers	1
Inn Keepers	1
Janitors	1
Jewellers	1
Junk Dealers	8
Laborers	70
Laundresses	4
Lawyers	3
Liquor Dealers	8
Longshoremen	2
Machinists	8
Manufacturers of Piano Fortes	1
Marble Cutters	1
Mechanics	2
Merchants	5
Milliners	1
Miners	1
Musicians	1
Operators	1
Oystermen	1
Painters	7
Paper Stainers	1
Pedlers	8
Physicians	3
Plasterers	2
Plumbers	2
Porters	2
Printers	3
Prostitutes	2
Restaurants	3
Roofers	1
Sail Makers	2
Seamstresses	5
Segar Makers	2
Shoe Makers	7
Silversmiths	1
Singers	2
Speculators	1
Stablemen	2
Stewards	1
Stone Cutters	1
Tailors	8
Time Keepers	1
Travelers	1
Undertakers	1
Vagrants	8
Waiters	2
Watch Makers	1
Watchmen	1
Weavers	1
Weighers	2
Whitewashers	1
NOT STATED	225

TOTAL ... 556

DIETIC DISEASES.

Alcoholism.—Alcoholism proper, as a direct cause, was credited with 220 deaths, of which delirium tremens occasioned 101. An accurate record, however, was kept throughout the year of *all* cases where intemperance was certified to have been *instrumental* in producing death, and the accompanying tables are presented as the result of this inquiry; 556 such cases were noted, 300 being males and 256 females—about 11 each week. The associate diseases, usually those directly traceable to the excessive use of intoxicating liquors, and concerned most prominently in the fatal result, are here tabulated, and form a very interesting study. 95 deaths were ascribed simply to intemperance, and were, almost without exception, Coroners' cases where no post mortem examination was made, the deceased persons having been the most confirmed inebriates, constantly saturated, so to speak, with alcohol. The rest whose deaths were ascribed directly to alcoholism were also as a rule Coroners' cases dying of delirium tremens or intemperance, where autopsy revealed such a variety of complicating disorders as to leave no alternative save to attribute the death as above. Affections of the kidney (Bright's disease and uræmia) were the most prominent complicating causes in 122 cases. Diseases of the brain in 72 (of which Congestion of the Brain existed in 31, Apoplexy in 16 and Meningitis in 12.) Local respiratory affections in 63 (of which Pneumonia existed in 48). Phthisis Pulmonalis in 30. Diseases of the liver in 38, (of which Cirrhosis existed in 24.) Diseases of the heart in 21, Gastritis in 19 and Diarrhœa in 16. 17 accidents and 6 suicides were the result of intoxication. It is certain that very many more such instances eluded our notice from reluctance upon the part of the Coroners to particularize the fact. One death from intemperance was certified as being dependent likewise upon the inordinate use of tobacco, and in another old age was mentioned as a complicating cause, the victim (?) being 75 years old! The last instance might be adduced as a fulfillment of the old adage, that "the exception proves the rule." But 7 of these inebriates passed beyond the age of 70, but 18 beyond 65, and 45 beyond 60 years. The largest proportion of deaths (102) took place between 35 and 40; ten fell victims between 15 and 20 years of age, and 48 before they had arrived at 25. In 225 instances, no occupation was stated upon the certificate, most of these being females. 70 of those given were laborers, 19 clerks, 18 carmen or drivers, 13 carpenters, 8 peddlers, 8 machinists, 8 liquor dealers, 7 bar-tenders, 7 butchers, 7 painters, 7 shoemakers, 6 blacksmiths, 6 boatman, 5 merchants, 5 grocers, besides innumerable other occupations. 315 were Irish, 125 American, 61 Germans and 20 English.

Scurvy.—16 deaths were caused by scurvy. This disease prevailed extensively at the Lunatic Asylum, Blackwell's Island, being due, as far as we could learn, principally to an insufficiency of antiscorbutic food and a lack of attendance, there being in charge of over 1,400 patients but 4 physicians, who with the utmost vigilance were unable to combat successfully the predisposition to the disease manifested by so many of their insane patients.*

CONSTITUTIONAL DISEASES.

Diathetic Affections—Cancer.—This disease produced 335 deaths—93 males and 242 females; 75 were of native and 260 of foreign birth, a very large difference in favor of the comparative exemption from this dreadful malady of the native element. Of the total foreign mortality in this city 2.7 per cent. was due to cancer; and of the total native mortality 31 per cent. was due to the same cause. The United States census of 1870, which gives the statistics of half a million deaths throughout the union, exhibits a proportion of 2.4 per cent. foreign deaths and 1.1 per cent. native deaths from cancer, upon their respective mortality from all causes. In this city during the past year cancer destroyed 14 lives out of every 100,000 native inhabitants, and 62 out of every 100,000 foreign inhabitants. Cancer of the breast occasioned 35 deaths, of which 9 were natives and 26 foreign; cancer of the uteris, 97—28 natives and 69 foreign; cancer of the ovary, 5—1 native, and 4 foreign; cancer of stomach, 66—35 males and 31 females—5 native and 61 foreign; cancer of liver 55—20 males and 35 females, 8 native and 47 foreign. Cancer of rectum 13—4 males and 9 females—3 native and 10 foreign.

Gout and Rheumatism.—4 deaths were due to gout and 103 to rheumatism; all of the former were males; and of the latter 51 were males and 52 females. The number of deaths directly referred to this disease was large, there having been but 67 in the previous year and 55 in 1868.

TUBERCULAR DISEASES.

755 deaths were ascribed to hydrocephalus and tubercular meningitis and 757 to marasmus, tabes mesenterica and scrofula. The vast majority of these were naturally young children, and their number was altogether less by some 200 than in the previous year.

Phthisis Pulmonalis.—4,186 persons fell victims to phthisis pulmonalis, of whom 2,233 were males and 1,953 females; 1,461 natives and 2,725 foreigners. The mortality from this affection was equivalent to 15½ per cent. of the total from all causes. In 1870 it was 14.8, in 1869 13.3, in 1868 13.7, in 1867 14.4, and in 1866 12.2. The percentage of deaths upon total mortality, exclusive of hospitals, varied greatly in the different wards. In the 13th and 20th Wards it was only 11.2, in the 12th 12.8, in the 2d 13.1, in the 19th 13.8, in the 10th 13.9, in the 11th and 17th 14.1, in the 18th 14.8, in the 22d 15, in the 6th 15.1, in the 16th 15.3, in the 9th 15.8, in the 4th 16, in the 1st and 14th 16.6, in the 8th 18.4, in the 5th 18.7, in the 7th 18.9, in the 15th 19.1, and in the 3d 19.4.

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*An abundance and variety of the very best food is now recognized as an essential element in the treatment of the insane.

There were 52 more deaths from Phthisis among children less than 5 years old than in 1870, and 55 more than in 1869. The general course of the disease, as regards age, was otherwise quite similar to its course in other years—its mortality increasing in each successive quinquennial period from five years of age, attaining its maximum between 25 and 30, and thence gradually diminishing up to advanced age.

The months in order of fatality were as follows: In February the deaths from consumption averaged 13.3 daily; in March 13.1; in January 12.8; in April 12.3; in December 11.5; in May, July and October respectively 11.1; in September 10.8; in August 10.4; in November 10.3; in June 9.7. The first four months of the year were therefore the most fatal, producing 37 per cent. of all the deaths. The greatest weekly mortality was 101 in the week ending March 4th, and the lowest 50 in the week ending August 26th. The greatest daily mortality was 22, on October 27th, and the lowest, 3 on August 21st,

With respect to nationality, we have to notice the same peculiarities to which we directed attention the previous year, viz: the excessive death-rate among the Irish, as compared with the Germans.[*] The preponderance of females over males in the former, and the very great excess of males over females in the latter. 125 of the deaths were among colored persons, being 27 per cent. of their total mortality from all causes, while among the whites the percentage was only 15.3. The death-rate from consumption in the whole native born population was 2.8 in each thousand; in the foreign-born population it was 6.5, while in the population of African descent it rose as high as 9.6.

The principal occupations of those who died from Phthisis Pulmonalis were as follows: Laborers 362; domestics 271, (including 20 cooks); clerks 179; sewing-women 116; machinists, engineers and metal workers 108; carpenters, cabinet-makers, etc., 98; coachmen, carmen, etc., 94. Merchants 92; shoemakers 64: bar-tenders and saloon-keepers 61; tailors 54; masons, stone-cutters, etc., 50; house painters 42; printers 40; seamen and watermen 37. These various occupations of the victims of consumption appear in about the same order year after year, with almost unvarying regularity; and while this circumstance, doubtless, depends in a great measure upon the relative number of individuals engaged in the different pursuits, the direct bearing of occupation upon this disease cannot be denied. (*See Page* 260.)

[*] Irish population, 201,999—deaths by phthisis 1,663. German population, 151,216—deaths by phthisis 718. Total Irish mortality, 5,107. Percentage of deaths by phthisis on total mortality, 32.5. Total German mortality, 2,571. Percentage of deaths by phthisis on total mortality, 27.9. According to the last census throughout the whole United States, the percentage of deaths by consumption, upon total mortality for one year, was among the Irish 27.8, and among the Germans 22.2.

TABLE No. XXII.

ABSTRACT OF THE RECORD OF DEATHS BY PHTHISIS PULMONALIS IN THE CITY OF NEW YORK, FOR THE TWELVE MONTHS ENDING DECEMBER 31st, 1871,

SHOWING NATIVITY, COLOR, AGES, SEXES, CLASSES OF OCCUPATIONS, LENGTH OF RESIDENCE IN THE CITY; ALSO THE MONTHS AND WARDS IN WHICH THESE DEATHS OCCURRED; ALSO THE NUMBER OF SUCH DEATHS IN VARIOUS PUBLIC INSTITUTIONS.

MONTHS.	NATIVITY.												LENGTH OF RESIDENCE IN THE CITY.				COLOR.		TOTAL.		GRAND TOTAL.
	NATIVE.			IRISH.			GERMAN.			OTHER FOREIGN COUNTRIES.			Less than 5 Years.	From 5 to 10 Years.	10 Years and Upwards.	Unknown.	White.	Colored.	Males.	Females.	
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total	M.	F.	Total									
January	77	69	146	70	92	162	31	25	56	21	12	33	41	43	193	120	389	8	199	198	397
February	70	65	135	58	79	137	44	26	70	16	16	32	44	50	168	112	364	10	188	186	374
March	93	59	152	70	83	153	43	26	69	20	12	32	45	42	186	133	393	13	226	180	406
April	78	60	138	88	57	145	35	26	61	14	12	26	36	47	186	101	358	12	215	155	370
May	72	52	124	59	65	124	45	18	63	23	11	34	44	36	172	93	339	6	109	146	345
June	64	40	104	43	65	108	37	20	57	16	6	22	31	34	143	83	276	15	160	131	291
July	57	64	121	56	76	132	44	18	62	16	13	29	39	32	191	82	332	12	173	171	344
August	62	42	104	70	68	138	40	19	59	15	8	23	29	44	153	96	314	8	187	135	322
September	46	56	102	65	75	140	34	20	54	20	10	30	27	33	179	87	319	7	165	161	326
October	49	64	113	72	75	147	36	21	57	17	10	27	37	36	188	83	333	11	174	170	344
November	60	40	100	57	68	125	37	15	52	10	21	31	27	30	160	93	300	10	164	146	310
December	55	67	122	75	77	152	34	24	58	19	6	25	26	41	186	104	344	13	183	174	357
Total	783	678	1461	783	880	1663	460	258	718	207	137	344	426	468	2105	1187	4061	125	2233	1953	4186

TABLE No. XXII -*Continued.*

ABSTRACT OF MORTALITY FROM PHTHISIS PULMONALIS IN THE CITY OF NEW YORK, &c.

MONTHS.	Under 1 Year.		From 1 to 2 Years.		From 2 to 3 Years.		From 3 to 4 Years.		From 4 to 5 Years.		From 5 to 10 Years.		From 10 to 15 Years.		From 15 to 20 Years.		From 20 to 25 Years.		From 25 to 30 Years.		From 30 to 35 Years.		From 35 to 40 Years.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
January	2	1	4	5	2	2	.	.	1	2	3	2	2	2	5	10	23	23	27	25	26	27	29	19
February	1	4	5	1	5	2	.	2	.	.	4	1	2	1	4	10	19	26	32	36	20	19	32	20
March	9	6	5	3	6	4	1	.	2	.	2	.	4	4	8	5	28	24	28	31	26	19	33	24
April	3	2	5	2	4	3	.	1	.	.	3	6	2	3	13	8	21	14	28	36	30	17	34	16
May	5	5	4	3	3	1	1	.	.	2	1	.	3	4	9	7	17	17	38	31	27	24	22	15
June	3	4	1	1	.	1	.	1	.	.	3	1	2	2	11	8	14	17	30	31	18	15	20	9
July	4	2	2	.	.	.	.	3	1	3	2	1	3	4	9	14	22	20	17	28	28	22	29	21
August	5	2	4	4	1	.	.	.	.	.	2	.	2	.	7	6	27	11	32	25	22	10	18	23
September	2	4	3	3	.	.	.	.	.	.	.	.	1	3	9	8	15	17	16	26	22	23	27	20
October	1	.	.	3	.	.	.	1	.	.	1	1	.	3	7	11	13	25	30	24	23	25	23	16
November	1	3	5	3	1	.	2	.	.	.	1	1	2	2	11	9	22	25	20	18	21	21	18	19
December	3	2	2	1	1	.	1	1	.	.	2	3	.	3	6	14	23	21	25	28	30	26	24	23
Total	39	35	40	29	23	13	5	9	4	7	24	16	23	31	99	110	244	240	323	339	293	248	309	225
	74		69		36		14		11		40		54		209		484		662		541		534	

TABLE No. XXII—*Continued.*

ABSTRACT OF MORTALITY FROM PHTHISIS PULMONALIS IN THE CITY OF NEW YORK, &c.

MONTHS.	From 40 to 45 Years.		From 45 to 50 Years.		From 50 to 55 Years.		From 55 to 60 Years.		From 60 to 65 Years.		From 65 to 70 Years.		From 70 to 75 Years.		From 75 to 80 Years.		From 80 to 85 Years.		From 85–90 Yrs.		From 90–95 Yrs.		From 100 and Upwards		Total by Sexes.		Grand Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
January	19	18	20	19	14	8	9	12	6	10	5	5	1	5	1	2	.	.	.	.	.	.	.	1	199	198	397
February	22	16	10	12	7	13	9	6	3	5	5	4	5	4	1	2	2	2	.	.	.	.	.	.	188	186	374
March	22	14	20	18	12	6	5	7	6	5	4	5	4	4	1	1	.	.	.	.	.	.	.	.	226	180	406
April	22	13	12	6	13	10	10	3	6	5	4	3	4	6	1	.	.	1	.	.	.	.	.	.	215	155	370
May	19	13	16	7	11	4	8	3	5	3	6	3	3	3	.	1	1	.	.	.	.	.	.	.	199	146	345
June	11	15	16	4	11	8	7	3	6	5	2	5	2	1	1	.	2	.	.	.	.	.	.	.	160	131	291
July	15	15	13	11	6	9	5	7	8	5	4	2	3	1	2	1	.	.	.	1	.	1	.	.	173	171	344
August	11	15	14	12	16	5	11	8	6	5	7	.	1	5	1	3	.	1	.	.	.	.	.	.	187	135	322
September	13	21	17	10	16	8	4	3	6	7	7	5	3	1	3	.	1	1	.	1	.	.	.	.	165	161	326
October	16	14	24	13	10	12	11	7	6	4	4	4	5	2	.	5	.	.	.	.	.	.	.	.	174	170	344
November	22	11	13	4	8	6	10	4	2	6	1	4	2	5	1	3	.	2	1	.	.	.	.	.	164	146	310
December	13	11	16	6	13	10	9	9	8	6	3	5	1	3	2	1	1	1	.	.	.	.	.	.	183	174	357
Total	205	176	191	122	137	99	98	72	68	66	52	45	34	40	14	19	7	8	1	2	.	1	.	1	2233	1953	4186
	381		313		236		170		134		97		74		33		15		3		1		1		4186		..

TABLE No. XXII—*Continued.*

ABSTRACT OF MORTALITY FROM PHTHISIS PULMONALIS IN THE CITY OF NEW YORK, &c.

WARDS.	Under 1 Year.	Fr'm 1 to 2 Years.	Fr'm 2 to 3 Yrs.	Fr'm 3 to 4 Yrs.	Fr'm 4 to 5 Yrs.	Fr'm 5 to 10 Yrs.	Fr'm 10 to 15 Yrs.	Fr'm 15 to 20 Yrs.	Fr'm 20 to 25 Yrs.	Fr'm 25 to 30 Yrs.	Fr'm 30 to 35 Yrs.	Fr'm 35 to 40 Yrs.	Fr'm 40 to 45 Yrs.	Fr'm 45 to 50 Yrs.	Fr'm 50 to 55 Yrs.	Fr'm 55 to 60 Yrs.	Fr'm 60 to 65 Yrs.	Fr'm 65 to 70 Yrs.	Fr'm 70 to 75 Yrs.	Fr'm 75 to 80 Yrs.	Fr'm 80 to 85 Yrs.	Fr'm 85 to 90 Yrs.	Fr'm 90 to 95 Yrs.	100 and Upw'd	Total.
First	..	1	..	..	..	1	..	4	7	16	9	13	3	12	2	3	5	4	..	..	..	..	..	..	80
Second	..	..	..	..	..	..	..	..	1	1	..	..	..	1	1	..	..	1	..	..	..	..	..	..	5
Third	..	..	..	..	..	..	..	1	2	1	2	1	1	2	1	1	..	..	1	..	..	..	..	..	13
Fourth	..	1	2	..	..	..	..	5	12	15	12	15	8	13	11	2	3	2	..	1	..	..	..	..	102
Fifth	2	2	1	..	..	2	3	5	7	9	15	14	11	3	3	3	1	2	2	..	..	..	..	..	85
Sixth	1	4	4	2	1	5	1	2	9	13	14	14	10	9	3	8	6	3	1	1	1	..	..	..	*112
Seventh	2	5	2	..	1	2	2	9	19	26	18	27	14	8	10	6	10	4	3	2	..	..	..	..	170
Eighth	3	2	2	..	..	2	1	12	22	31	17	22	16	17	13	4	3	6	3	2	..	..	..	..	178
Ninth	4	1	1	1	..	..	2	13	26	42	30	23	9	8	8	9	7	5	4	2	1	..	..	..	†196
Tenth	4	1	1	..	1	1	1	8	17	19	25	23	12	9	8	3	2	..	2	1	..	..	..	..	138
Eleventh	4	3	4	3	..	5	3	17	31	52	36	29	21	21	19	10	5	11	9	1	1	..	..	..	‡285
Twelfth	3	5	3	2	..	4	9	17	37	30	20	24	16	19	11	7	5	2	1	..	..	..	..	..	§215
Thirteenth	..	2	..	..	..	1	3	3	14	16	11	7	10	6	8	6	2	1	3	..	..	1	..	..	94
Fourteenth	8	5	..	1	..	2	2	2	9	18	17	11	11	10	8	8	5	2	..	..	..	..	..	..	119
Fifteenth	1	2	..	1	..	..	..	4	14	11	6	9	9	4	4	2	..	2	5	2	1	..	..	..	77
Sixteenth	..	1	..	..	1	2	1	14	18	17	20	20	17	12	9	6	6	4	5	1	..	..	..	..	154
Seventeenth	10	5	3	..	2	1	4	19	23	40	47	40	39	27	18	13	10	5	9	1	..	..	..	..	316
Eighteenth	1	1	3	1	..	3	1	8	17	31	29	23	29	12	8	9	6	2	1	1	..	..	..	..	‖186
Nineteenth	16	11	..	1	2	..	7	18	74	97	89	95	52	44	40	30	27	20	8	13	8	..	1	..	¶653
Twentieth	2	7	5	1	2	4	5	18	39	46	44	37	31	24	14	19	10	7	7	1	1	..	..	..	**324
Twenty-first	2	1	2	1	..	1	2	19	60	82	60	65	33	31	25	13	11	8	5	..	1	..	..	..	††422
Twenty-second	11	9	3	..	1	4	7	11	26	49	29	22	29	21	12	8	10	6	5	4	1	2	..	1	‡‡262
Total	74	69	36	14	11	40	54	209	484	662	541	534	381	313	236	170	134	97	74	33	15	3	1	1	4186

* Sixth Ward......including 5 in Hospitals.
† Ninth Ward ..... " 54 "
‡ Eleventh Ward.. " 60 "

§ Twelfth Ward ...including 90 in Hospitals.
‖ Eighteenth Ward, " 1 "
¶ Nineteenth Ward, " 396 "

** Twentieth Ward.....including 13 in Hospitals.
†† Twenty-first Ward... " 255 "
‡‡ Twenty-second Ward, " 2 "

TABLE No. XXII.—*Continued.*

ABSTRACT OF MORTALITY FROM PHTHISIS PULMONALIS.

OCCUPATION.	Number	OCCUPATION.	Number
Actors	3	Janitors	3
Authors, Literary men and Translators	4	Laborers	362
Artists (including Sculptors, Photographers, &c.)	10	Laundresses	19
Agents	12	Lawyers	10
Brokers	6	Lithographers, Engravers and Electrotypers	13
Bakers	25	Machinists, Engineers, Black and Tinsmiths, &c.	108
Barbers	14	Masons (Stonecutters, &c.)	50
Bookbinders	17	Merchants and Manufacturers	92
Butchers	22	Musicians	9
Bartenders (and Saloonkeepers)	61	Milkmen	4
Builders and Contractors	12	Marble Polishers	5
Billposters	2	Physicians	8
Brewers	7	Painters	42
Clergymen	2	Plumbers	16
Clerks (including Bookkeepers, Salesmen, &c.)	179	Pedlers	20
Carmen (including Coachmen, Drivers, &c.)	94	Policemen and Watchmen	16
Conductors and Railroad men	11	Printers	40
Carpenters (Cabinet and Pianomakers)	98	Porters	3
Confectioners	6	Plasterers	5
Coopers	20	Students	3
Carvers (Wood)	5	Seamen and Watermen	37
Curriers	3	Segarmakers	29
Cooks	20	Shoemakers	64
Domestics of other kinds	251	Sisters of Charity	5
Dressmakers and Seamstresses	116	Stablemen	4
Druggists	5	Tailors	54
Dentists	3	Teachers. Males	4
Dyers	3	Teachers. Females	10
Drovers	2	Turners	5
Farmers and Gardeners	16	Telegraph Operators	4
Firemen	10	Undertakers	3
Grocers	17	Upholsterers	3
Gasfitters	6	Other occupations	1743
Glasscutters	4	Children, and no occupations given	298
Hatters	6		
Jewelers	23	Total	4186

Locati'n by Wards.	PUBLIC INSTITUTIONS.	Number of Deaths	Locati'n by Wards.	PUBLIC INSTITUTIONS.	Number of Deaths
VI.	Centre St. (Reception Hospital)	4	XIX.	Penitentiary, B. I.	1
"	City Prison	1	"	Charity Hospital, "	187
IX.	St. Vincent's Hospital	53	"	Small-pox Hosp. "	4
"	Twenty-eighth Precinct Police Station	1	"	Workhouse, "	3
XI.	St. Franciscus' Hospital	60	"	Fever Hospital, "	1
XII.	Ward's Island	51	"	Incurable Hosp. "	3
"	Randall's Island Nursery Hosp.	3	"	Colored Home Hospital	47
"	House of Good Shepherd	9	"	Nursery and Child's Hospital	1
"	Colored Orphan Asylum	3	"	St. Luke's Hospital	44
"	Infants' Hospital, Randall's Is.	7	"	German Hospital	31
"	House of Mercy	2	"	Roman Catholic Orphan Asylum	3
"	St. Joseph's Asylum	1	"	St. Joseph's Industrial School	1
"	Soldiers' Retreat, W. I.	9	"	Hahnemann's Hospital	1
"	N. Y. C. Asylum for the Insane.	2	XX.	Mt. Sinai Hospital	12
"	Convent of Sacred Heart	1	"	St. Mary's Hospital	1
"	N. Y. Magdalen Asylum	1	XXI.	Bellevue Hospital	253
"	Leak & Watts' House	1	"	Home of the Friendless	2
XVIII.	Home for Respectable and Indigent Women	1	XXII.	House of the Little Sisters of the Poor	1
XIX.	Lunatic Asylum, B. I.	42	"	Roosevelt Hospital	1
"	Almshouse, "	27		Total	876

Of the total number of deaths, 876, or 20 per cent. took place in public institutions. In Bellevue Hospital there were 253 deaths, or 23 per cent. of the mortality from all causes. In the Charity Hospital 187 deaths, or 32 per cent.; in St. Francis Hospital 60, or 40 per cent.; in St. Vincent's Hospital 53, or 46 per cent.; in Ward's Island Emigrant Hospital, 51, or 16 per cent.; in St. Luke's Hospital 44, or 37 per cent.; in the Colored Home 47, or 34 per cent.; in the Lunatic Asylum on Blackwell's Island 42, or 25 per cent.; in the German Hospital 31, or 33 per cent.; in the Alms House 27, or 22 per cent.; in Mt. Sinai 12, or 27 per cent.

TABLE No. XXIII.

COMPARATIVE MORTALITY BY CONSUMPTION, BETWEEN THE WHITE AND COLORED RACES, IN THOSE STATES OF THE UNION CONTAINING OVER ONE THOUSAND COLORED POPULATION.

(*For Year Ending June 1st*, 1870.)

	STATES.	Proportion of Deaths of Colored to 100 Deaths of White Population.	Proportion of Colored to 100 White Population.	Percentage greater or less of Colored upon White Deaths.			STATES.	Proportion of Deaths of Colored to 100 Deaths of White Population.	Proportion of Colored to 100 White Population.	Percentage greater or less of Colored upon White Deaths.	
				Greater.	Less.					Greater.	Less.
1	Iowa	2.02	.49	312	..	15	Missouri	11.67	7.36	59	..
2	Wisconsin	.76	.20	280	..	16	Kentucky	28.27	20.22	39	..
3	New York	3.59	1.20	199	..	17	Tennessee	47.00	34.48	37	..
4	Rhode Island	6.17	2.34	162	..	18	Maryland	38.68	28.97	33	..
5	West Virginia	10.78	4.24	154	..	19	Virginia	95.43	72.02	32	..
6	Maine	.65	.26	150	..	20	North Carolina	69.80	57.72	20	..
7	Michigan	2.48	1.01	145	..	20	Illinois	1.37	1.14	20	..
8	Ohio	5.76	2.43	137	..	21	South Carolina	166.00	143.55	16	..
8	Pennsylvania	4.48	1.89	137	..	22	California	.90	.85	6	..
9	Kansas	11.05	4.94	124	..	23	Mississippi	106.23	116.01	..	8
10	Massachusetts	1 95	.97	101	..	24	Georgia	70.23	85.32	..	17
11	Indiana	2.97	1.48	100	..	25	Alabama	70.25	91.20	..	22
12	Connecticut	3.57	1.83	95	..	26	Louisiana	68.22	100.59	..	32
13	Delaware	40.28	22.30	80	..	27	Arkansas	22.44	35.39	..	36
14	New Jersey	6.30	3.50	80	..	28	Texas	18.91	44.88	..	58
14	Dis. of Columbia	85.71	49.17	74	..	29	Florida	35.05	95.45	..	63

The much greater susceptibility to Phthisis of the negro, as compared with the white in all portions of the Union, except the extreme Southern States, is well exhibited by the accompanying table compiled from figures supplied by the recent census.

TABLE No. XXIV.

TABLE SHOWING MORTALITY BY CONSUMPTION THROUGHOUT THE UNITED STATES ACCORDING TO THE CENSUS OF 1870.

(For Year ending June 1st, 1870.)

	State or Territory.	Total Mortality.	Deaths from Consumption.	Percent'ge of Deaths from Consumption on Total Mortality.		State or Territory.	Total Mortality.	Deaths from Consumption.	Percent'ge of Deaths from Consumption on Total Mortality.
1	Maine	7,728	1,991	25.77	25	Dacotah,	101	13	12.87
2	New Hampshire	4,291	953	22.21	26	Delaware	1,561	296	12.56
3	Dist. of Columbia	2,015	442	21.93	27	North Carolina	10,588	1,236	11.67
4	Vermont	3,545	715	20.17	28	Illinois	33,672	3,641	10.81
5	Rhode Island	2,741	552	20.14	29	Idaho	50	5	10.00
6	Massachusetts	25,859	5,157	19.94	30	Louisiana	14,499	1,409	9.72
7	Oregon	622	112	18.00	31	Missouri.	27,982	27,17	9.71
8	Connecticut	6,796	1,218	17.92	32	Montana	185	17	9.22
9	Ohio	29,568	5,255	17.77	33	Kansas	4,546	413	9.08
10	West Virginia	4,018	709	17.64	34	South Carolina	7,380	657	8.90
11	Kentucky	14,345	2,500	17.43	35	Nebraska	1 000	89	8.70
12	Maryland	9,740	1,678	17.23	36	Colorado	375	32	8.53
13	New Jersey	10,586	1,822	17.21	37	Missisippi	9,172	695	7,58
14	New York	69,095	11,578	16.76	38	Utah	891	63	7.07
15	Tennessee	14,223	2.377	16.69	39	Alabama	10,771	761	7.06
16	Michigan	11,181	1,844	16.49	40	Arkansas	6,119	431	7.04
17	Indiana	17,661	2,807	15.90	41	Georgia	13,606	875	6.43
18	Washington Terri'y	223	35	15.70	42	Texas	11.197	680	6.07
19	Pennsylvania	52,639	7,481	14 21	43	Florida	22,64	131	5.78
20	California	9,025	1,246	13.80	44	Wyoming	74	4	5.40
21	Virginia	15,183	2,095	13.79	45	Nevada	615	30	4.89
22	Iowa	9,597	1,313	13.68	46	New Mexico	1,180	45	3.81
23	Wisconsin	9,960	1,318	13.23	47	Arizona	252	10	40
24	Minnesota	3,526	459	13.02		Whole U. S.	492.263	69.896	14.19

The table following, drawn from the same source, shows the comparative prevalence of consumption in the various states. Although the figures of mortality given by the census, are acknowledged to be incomplete, the percentage of deaths by consumption upon all deaths therein contained, undoubtedly approximates very closely to the truth, except in the sparsely settled territories. The fatality of the disease is greatest in the New England States, Main and New Hampshire standing first and second on the list, Vermont, Rhode Island, and Massachusetts fourth, fifth and sixth, and Connecticut eighth. It is least in the extreme southern and southwestern states, Arizona presenting the most favorable figures, New Mexico coming next, followed by Nevada, Wyoming, Florida, Texas, Georgia, Arkansas, Alabama, Utah and Mississippi, the four last differing but slightly from each other.

LOCAL AFFECTIONS.

9,280 deaths were the result of the local class of diseases—619 less than in the previous year. We may allude briefly to some of the chief varieties.

DISEASES OF THE NERVOUS SYSTEM.

2,677 deaths were referred to these disorders, of which apoplexy caused 403; convulsions 713; congestion of the brain 172; encephalitis and cerebral meningitis 741; softening of the brain 128, and epilepsy 101. The last mentioned disease was remarkably fatal; its deaths in 1870 having amounted to only 67, and in 1869 to 72. Of its 101 deaths 43 were in males and 58 in females. But 21 deaths were produced by exposure to solar heat, against 238 in the previous year. The deaths of 67 persons were ascribed directly to insanity.

DISEASES OF THE CIRCULATORY SYSTEM.

This order of affections caused 894 deaths—502 males and 392 females, 347 native, and 547 foreign. But 31 were under 5 years of age. There were 60 deaths from Aortic Aneurism, 395 from valvular disease of the heart; 142 from cardiac hypertrophy; 101 from pericarditis; 56 from fatty degeneration of the heart, and 83 from heart disease whose variety was unknown or unspecified. Our list of these affections is infinitely more complete and specific than it has ever been in previous years.

RESPIRATORY DISEASES.

3,248 deaths were due to local affections of the respiratory system. Pneumonia was, as usual, by far the most fatal, having caused 1,834 deaths, while bronchitis occasioned 964, congestion of the lungs 148, laryngitis 86, and emphysema 79. A large proportion of these deaths, viz.: 1,858, were among children less than 5 years of age, of whom pneumonia carried off 952, and bronchitis 722.

DISEASES OF THE DIGESTIVE SYSTEM.

Diseases of the digestive organs caused 1,052 deaths. The list of disdisorders of this complicated apparatus is a very long one, embracing no less than 50 different varieties. The greatest number of deaths, 154, were due to peritonitis. These were all cases returned as *simple* or *idiopathic* peritonitis,* the *traumatic* and *puerperal* kinds not being included here, and the definite cause in other instances, as *perforation of vermiform appendix*, *ulceration of intestines*, etc., being specially designated. Cirrhosis of the liver caused 150 deaths; gastritis (*simple*), 132; enteritis 110; hepatitis 91, and gastro-enteritis 78. These were the most prominent fatal derangements of this system.

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*The possible existence of *idiopathic* peritonitis is beginning to be doubted by pathologists, who assert that a careful post mortem scrutiny should discover the exciting cause in every instance. The difficulty of obtaining autopsies in private practice is an obstacle to the elucidation of the primary cause in this disease, no less than in many others; and the apparent spontaneity of the affection must be acknowledged by the attending physician. Moreover, admitting that any disease may be idiopathic, why not Peritonitis as well as Pleuritis and Meningitis? The fact is that the word *idiopathic*, in its literal signification, is always unphilosophical. It is a term of mere expediency, explaining nothing, and must gradually disappear in the light of successive pathological developments.

URINARY DISEASES.

This very interesting order of affections was credited with 1,163 deaths—654 males and 509 females; 426 native and 737 foreign. 947 deaths were referred to Bright's disease, 83 to nephritis, and 48 to uraemia. Diseases of this character have of late years been rapidly increasing in fatality. Diabetes Mellitus produced 25 deaths, of which 16 were in males and 9 in females. This proportion of male deaths is unusually large. One death was attributed to Addison's disease, and 1 to urethral fever.

TABLE No. XXV.

ABSTRACT OF DEATHS CERTIFIED AS DEPENDENT UPON BRIGHT'S DISEASE OF THE KIDNEYS, WITH COMPLICATING CAUSES, SEX, CONDITION, NATIVITY, AND OCCUPATIONS OF DECEDENTS.

	No. of Cases.		*No. of Cases.*
BRIGHT'S DISEASE	437	Intestine Obstructions	1
Anaemia	2	Liver, Disease of	16
Apoplexy	4	Lungs, Congestion of	4
Brain, Congestion of	2	" Oedema of	26
" Softening of	2	Measles	1
Bronchiuis	8	Meningitis	12
Chlorosis	1	Metritis	1
Convulsions	3	Ovarian Abscess	1
Cystitis	4	Paralysis	7
Diarrhœa	11	Peritonitis	6
Dropsy	63	Phthisis	9
Dysentery	6	Pleurisy	17
Emphysema	6	Pneumonia	30
Encephalitis	1	Rachitis	1
Enlarged Prostate	1	Renal Calculi	1
Enteritis	1	Rheumatism	4
Epilepsy	1	Scarlatina	3
Erysipelas	2	Scurvy	1
Fright	1	Small-Pox	1
Gastritis	3	Spine, Disease of	1
Hæmatemesis	1	Stricture of Urethra	1
Hæmorrhage of Bowels	2	Syphilis	3
Heart, Disease of	112	Thrombosis	1
Hip, Disease of	4	Uræmia	33
Hydrocephalus	3	Uterus, Cancer of	1
Insanity	1		
Intemperance	82		
Intermittent Fever	1	GRAND TOTAL	947

SEXES.	*No.*	CONDITION.	*No.*
Males	501	Single	267
Females	446	Married	425
		Widowed	205
		Unknown	50
TOTAL	947	TOTAL	947

TABLE No. XXV—*Continued.*

NATIVITY.

United States.	Ireland.	Germany.	Brazil.	Canada.	China.	Denmark.	England.	France.	Holland.	Italy.	Norway.	Poland.	Russia.	Scotland.	Sweden.	Switzerland.	West Indies.	TOTAL.
327	417	108	1	5	1	1	49	6	2	1	1	1	2	21	2	1	1	947

OCCUPATION.

Agents............	3	Cooks, (*females*)....	8	Marble Polishers...	2	Showmen...........	1
Agents, Railroad...	1	Cooks, (*males*)......	1	Masons.............	5	Silversmiths.......	1
Agriculturists......	1	Coopers............	1	Merchants..........	23	Soldiers............	1
Artists............	1	Cutters.............	1	Messengers.........	1	Stablemen..........	1
Bakers.............	5	Deputy Sheriffs....	1	Millers.............	1	Stewards...........	2
Barbers............	3	Domestics, (*females*)	67	Milliners...........	1	Stonecutters........	2
Bartenders.........	2	Draughtsmen......	1	Miners.............	1	Storekeepers........	2
Blacksmiths........	6	Dressmakers.......	4	Musicians..........	1	Sugar-Refiners......	1
Boatmen...........	1	Drivers............	8	Nurses, (*females*)...	2	Surgeons..........	1
Boilermakers......	1	Drovers............	1	Oystermen.........	2	Tailors............	13
Bookbinders.......	1	Dyers..............	1	Painters............	14	Teachers, (*females*).	3
Boxmakers........	1	Engineers..........	4	Peddlers............	5	Teachers, (*males*)....	2
Bricklayers.........	1	Expressmen........	1	Physicians..........	2	Theatre Managers..	1
Brokers............	3	Farmers...........	1	Pilots..............	1	Time-keepers.......	1
Builders...........	1	Firemen...........	1	Planters............	1	Tinsmiths..........	2
Butchers...........	7	Fishmongers......	2	Plasterers..........	1	Tobacconists........	1
Capmakers........	4	Furnishers.........	1	Plumbers...........	3	Turners............	1
Cardrivers........	1	Grocers...........	1	Policemen..........	3	Umbrella-makers...	1
Carpenters.........	15	Gaugers...........	1	Porters.............	2	Undertakers........	1
Carvers............	1	Hairdressers.......	1	Printers............	3	Upholsterers.......	3
Chambermaids.....	1	Horseshoers.......	1	Proof-readers......	1	Waiters............	3
Chemists...........	1	Hostlers...........	1	Restaurants........	1	Washerwomen......	3
Chimney Sweepers..	1	Hucksters.........	2	Roofers............	1	Watchmen..........	4
Civil Engineers.....	1	Jewelers...........	2	Saloon keepers.....	2	Water Inspectors...	1
Clerks.............	26	Laborers...........	73	Sawyers............	1	Weavers, (*females*)..	1
Coachmen..........	3	Laundresses........	3	Scissors-grinders...	1	Weavers, (*males*)....	1
Collectors..........	1	Lawyers...........	3	Seamen............	6	Wheelwrights.......	1
Compositors........	1	Linguists..........	1	Seamstresses......	8	Wine Dealers.......	1
Conductors, R. R...	4	Liquor Dealers....	3	Segar-makers.......	3	Not stated..........	478
Confectioners......	3	Longshoremen.....	2	Ship-sawyers.......	1		
Contractors.......	1	Machinists.........	3	Shoemakers........	11	Grand Total.....	947

DISEASES OF THE GENERATIVE SYSTEM.

Only 52 deaths were ascribed to diseases of this system—all in females, and a very small number, as in 1870 they amounted to 76, and in 1869 to 105. 22 were cases of Ovarian tumor and dropsy, of which disease 9 additional cases have been placed in the list of surgical operations resulting fatally. 8 deaths were occasioned by fibroid uterine tumors, and 7 by non-puerperal metro peritonitis.

DISEASES OF THE LOCOMOTORY AND OSSEOUS SYSTEM.

These affections, principally of the bones and joints, occasioned 127 deaths, against 91 in the previous year.

INTEGUMENTARY DISEASES.

51 deaths were ascribed to integumentary diseases, the most prominent being cases of superficial abscesses in young children.

TABLE No. XXVI

TABLE OF ALL DEATHS IN 1871 CERTIFIED AS HAVING BEEN DUE TO DENTITION AS A COMPLICATING CAUSE.

Disease.	Ages by Months.																		
	From 2 to 3	From 3 to 4	From 4 to 5	From 5 to 6	From 6 to 7	From 7 to 8	From 8 to 9	From 9 to 10	From 10 to 11	From 11 to 12	From 12 to 13	From 13 to 14	From 14 to 15	From 15 to 16	From 16 to 17	From 17 to 18	From 18 to 19	From 19 to 20	From 20 to 21
*Dentition alone	..	..	..	..	..	..	..	..	..	1	1	..	1	..	..	..	..	..	..
Convulsions	..	..	3	10	6	12	20	17	18	15	15	12	7	8	8	7	4	4	4
Congestion of Brain	..	..	..	2	1	5	1	1	2	1	3	1	2	2	2	2	3	..	..
Encephalitis and Meningitis	..	..	1	5	..	6	5	9	4	4	9	5	..	5	4	2	2	3	..
Hydrocephalus and Meningitis, Tubercular	..	..	..	4	8	5	4	7	6	3	4	11	5	6	5	2	2	4	2
Bronchitis	..	..	..	..	..	1	2	1	1	1	1	..	3	1	..	1	1	1	1
Congestion of Lungs	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	1
Pneumonia	..	..	..	..	1	1	2	1	1	2	2	2	2	2	2	2	..	1	1
Disease of Heart	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Stomatitis	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
Gastritis	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
Hæmorrhage of Bowels	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
Worms	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diarrhœa	1	1	4	7	3	16	27	17	25	16	19	20	11	4	6	4	8	7	..
Enteritis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Tabes Mesenterica and Marasmus	..	1	..	2	3	2	3	1	5	..	4	3	3	3	5	..	2	..	1
Inanition	..	..	..	..	..	1	..	1	..	..	1	..	..	..	..	..	..	..	1
Whooping-cough	..	..	..	1	..	..	2	..	..	3	..	1	..	2	..	2	..	..	..
Erysipelas	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
Remittent Fever	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..
Measles	..	..	..	..	..	2	1	1	..	..	1	..	..	..	1	..	1	..	..
Small-pox	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
Diphtheria	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
Scarlatina	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Eczema	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Asthenia	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..
Grand total	1	2	8	31	23	51	68	56	65	47	63	56	36	35	34	22	24	20	12

* Classed with Convulsions in the Summary of Causes of Death.

TABLE No. XXVI—*Continued.*

TABLE OF ALL DEATHS IN 1871 CERTIFIED AS HAVING BEEN DUE TO DENTITION AS A COMPLICATING CAUSE.

DISEASE.	AGES BY MONTHS.																			Total.
	From 21 to 22	From 22 to 23	From 23 to 24	From 24 to 25	From 25 to 26	From 26 to 27	From 27 to 28	From 28 to 29	From 29 to 30	From 30 to 31	From 31 to 32	From 32 to 33	From 33 to 34	From 34 to 35	From 35 to 36	From 36 to 37	From 37 to 38	From 38 to 39	39	
*Dentition alone	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
Convulsions	4	2	1	3	1	1	..	1	..	1	..	..	..	..	..	..	..	..	..	184
Congestion of Brain	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	29
Encephalitis and Meningitis	2	1	..	1	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	71
Hydrocephalus and Meningitis, Tubercular	..	1	3	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	84
Bronchitis	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	16
Congestion of Lungs	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
Pneumonia	2	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	27
Disease of Heart	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Stomatitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Gastritis	..	.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Hæmorrhage of Bowels	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Worms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Diarrhœa	1	4	2	..	..	1	..	..	..	1	..	..	..	1	..	..	..	..	..	206
Enteritis	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Tabes Mesenterica and Marasmus	1	1	1	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	43
Inanition	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4
Whooping-cough	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	12
Erysipelas	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Remittent Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Measles	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8
Small-pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Diphtheria	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Scarlatina	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Eczema	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Asthenia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Grand total	11	10	8	8	2	5	2	1	..	2	1	..	..	1	..	..	..	..	1	706

* Classed with Convulsions in the Summary of Causes of Death.

DEVELOPMENTAL DISEASES.

Disorders of the formative, reproductive, and nutritive processes caused 1,765 deaths, an increase of 132 upon the previous year; 745 were in males and 1,020 in females. Premature and preternatural births were credited with 635 deaths. 62 were foundlings. Out of 364 premature births in which the fœtal age was specified, 4 occurred at 5 months of uterogestation; five at 5½ months; thirty-three at 6 months; forty three at 6½ months; one hundred and fifty-three at 7 months; thirty-five at 7½ months; eighty-six at 8 months; and five at 8½ months. Cyanosis was assigned as a cause of death in 154 instances—atelectasis in 31, spina bifida in 16, imperforate anus in 15, and various other malformations in 14.

Dentition is so frequently mentioned as an associate cause of death that we deemed a table of such cases would be interesting and instructive. It appears from this table that there are numerous instances in which the eruption of the temporary teeth is noticed by physicians long before the 7th month, 65 such cases being here recorded, one being placed as early as before the 3d month. In another case the process was not yet complete in the 39th month. Between the 7th and 14th months would appear to be the most dangerous period of dentition, 57 per cent. of all reported having died within that time.

The diseases of the Developmental order peculiar to women and principally of puerperal origin, amounted to 313, an excess of 144 over the number of the previous year. 1871 seemed particularly destructive of the lives of child-bearing women, as we have noticed that Puerperal Fever also was unusually fatal during the year. Puerperal Metro Peritonitis caused 113 deaths, Puerperal Convulsions 57. Childbirth alone was the cause certified in 50 cases, accidental abortion or miscarriage in 29, Flooding in 26, and Placenta Praevia in 4. Amenorrhœa, Menorrhagia, Chlorosis, Hysteria, and Hysterical Mania, were given as causes in a few instances. There were 5 cases of Rupture of Uterus, 2 of Extra uterine and 1 of Tubular Pregnancy. Of all these diseases of females 104 were in native, and 209 in foreign females.

Senile Gangrene caused 9 deaths. 230 deaths were referred to Atrophy and Asthenia. These figures were somewhat in excess of the previous year. Old age or Senile Decay was the only cause assigned in 324 cases, 127 males and 197 females.

In describing natural death or that due simply to old age—" la mort naturelle ou de vieillesse"—Buffon has said that the body dies gradually—little by little—that life is extinguished as by successive shadows, and that death is but the completion of this mingled series of degrees, the final shade upon the path of life. Similar to the indefinite gradation thus beautifully portrayed as attending our natural dissolution is the indeterminate age at which this event occurs in different individuals. Although human life has been philosophically divided into certain periods—infancy, childhood, youth, adolescence, maturity, decline, old age, each of these, while distinguished by its own peculiarities, runs insensibly into the next, and the duration of each is modified by circumstances. Thus the mental or physical development of one child is precocious—of another dilatory—youth lingers with one person to maturity, while the locks of his cotemporary are already white and his steps decrepit. So we speak of the "prematurely aged," or of the "hale and hearty old man." Years in fact are only an approximate measure of age.

We need not be suprised therefore to find among the deaths ascribed simply to Senile Decay, two between 50 and 55 years of age, two between 55 and 60—and 21 between 60 and 65—the rest ranging up to more than 100.

TABLE No. XXVII.

DEATHS OF PERSONS NINETY YEARS OLD AND UPWARDS IN NEW YORK, DURING THE YEAR 1871.

Date of Death.	Name of Deceased.	Age.			Condition.	Occupation.	Nativity.	Time of Residence in City.	Color.	Cause of Death.
		Yrs.	Mos.	Days.						
February 8	Stephen Abraham	90	0	0	W.	Mason.	Ireland.	30 years.	White.	Senile Gangrene of Leg.
" 27	Alstyne Desier	90	7	9	"	......	Rhode Island.	50 "	"	Old Age.
" 7	Edmond Boland..............	90	0	0	"	Tailor.	Ireland.	55 "	"	" "
" 28	Ellen Baird	101	0	14	"	......	Ireland.	35 "	"	" "
March 12	Felix Boylan	108	10	12	"	......	Ireland.	24 "	"	Apoplexy.
" 24	Thomas Baker	90	0	0	"	......	England.	40 "	"	Old Age.
January 3	Honora Conway..............	90	0	0	"	......	Ireland.	37 "	"	" "
March 29	Bridget Campbell	100	0	0	"	......	Ireland.	15 "	"	" "
January 23	Cecilia Dixon................	106	0	0	M.	......	West Indies.	50 "	Colored.	Phthisis Pulm.
March 13	Chlorana Durie..............	94	11	0	W.	......	New York.	30 "	White.	Old Age.
" 13	William Dealing..............	91	6	21	"	......	New York.	....	"	Gastro-Enteritis.
April 16	Jane Daley	100	0	0	"	......	Ireland.	22 "	"	Apoplexy.
January 30	John Flay....................	93	6	8	"	Mason.	England.	40 "	"	" (Paralysis).
May 1	Sarah Francis	96	0	0	"	Domestic.	New Jersey.	....	"	Old Age.
June 2	Ann Flanagan................	100	0	0	"	......	Ireland.	....	"	Acute Dysentery.
March 15	Honora Hallinan	90	0	0	"	......	Ireland.	23 "	"	Old Age.
" 6	Mary Johnston..............	97	0	0	"	......	Scotland.	40 "	"	Pleuro-Pneumonia.
July 28	Mary Burns..................	97	0	0	"	......	Ireland.	20 "	"	Bright's Disease.
August 30	Barbara Brunner........	92	0	0	"	......	Germany.	20 "	"	Old Age.
September 25	Johanna Barry	98	0	0	"	......	Ireland.	8 "	"	Chronic Bronchitis.
October 15	Marcella Bellinger............	96	0	0	"	Servant.	West Indies.	3 "	"	Old Age.
December 31	Jane Burges	93	9	7	S.	......	England.	60 "	"	Congestion of Lungs.
August 6	Matthew Collins	98	0	0	W.	Laborer.	Ireland.	35 "	"	Old Age.
October 3	Lawrence Connolly...........	98	0	0	M.	Laborer.	Ireland.	20 "	"	" "
" 18	Appolonia M. Clemens........	95	6	17	..	......	Germany.	21 "	"	" "
" 22	Mary Caulfield	95	0	0	W.	......	Ireland.	21 "	"	" "
November 6	Bridget Carroll..............	100	0	0	"	......	Ireland.	7 "	"	" "
December 31	Mary Conroy................	91	0	0	M.	......	Ireland.	21 "	"	" "
August 9	Sarah Depeyster	91	0	0	W.	......	Michigan.	....	"	" "
December 25	Peter Donnelly..............	98	8	0	"	Farmer.	Ireland.	8 "	"	" "
October 23	Nathan Frank................	93	0	0	"	......	Germany.	....	"	" "
August 10	Bridget Graham..............	98	0	0	"	......	Ireland.	20 "	"	" "
November 28	Julia Glynn	102	0	0	"	......	Ireland.	30 "	"	" "
August 8	Dennis Haverty	103	0	0	"	Butcher.	Ireland.	20 "	"	" "
October 3	John S. Hall..................	91	8	14		Mason.	New York.	1½ "	"	Hæmorrhage of Bowels.

TABLE No. XXVII.—*Continued.*

DEATHS OF PERSONS NINETY YEARS OLD AND UPWARDS IN NEW YORK, DURING THE YEAR 1871.

Date of Death.		Name of Deceased.	Age.			Condition.	Occupation.	Nativity.	Time of Residence in City.	Color.	Cause of Death.
			Yrs.	Mos.	Days.						
October	4	Michael Harris	97	0	0	M.	Merchant.	Germany.	28 years.	White.	Old Age.
"	6	Thomas Kreick	98	0	0	W.	Carpenter.	Bohemia.	6 "	"	" "
November	22	Peter Kane	90	0	0	"	Laborer.	Ireland.	25 "	"	Apoplexy.
January	15	Jane L. Martin	90	2	16	"	......	New York.	Life.	"	Old Age (Conges. of Lungs)
"	16	Philip Mueller	90	6	0	M.	......	Germany.	41 "	"	Pneumonia.
"	21	Ann Madden	90	0	6	W.	......	New York.	Life.	"	Old Age.
February	20	Simon Marx	96	0	0	"	......	Germany.	18 "	"	" "
May	14	Sarah Myers	98	0	0	"	......	England.	...	"	Senile Gangrene.
June	8	Patrick Murphy	94	0	0	M.	Laborer.	Ireland.	20 "	"	Old Age.
March	23	Louise Nicolai	93	1	0	W.	......	Germany.	12 "	"	Apoplexy.
May	26	Mary O'Connor	99	0	0	"	......	Ireland.	50 "	"	Old Age.
March	5	Jane Ryan	90	0	0	"	......	Ireland.	25 "	"	Hemiplegia (Paralysis .
February	5	Barbara Schurmann	90	3	0	"	......	Germany.	20 "	"	Apoplexy.
April	8	Sarah Slane	103	0	0	S.	......	Ireland.	60 "	"	Paralysis.
May	27	Sarah Steward	91	9	13	"	......	New York.	50 "	"	Old Age.
April	13	Ellen Valentine	92	0	0	W.	......	New York.	Life.	"	Bronchitis.
January	1	Lawrence Wren	90	0	0	"	......	Ireland.	20 "	"	Relapsing Fever.
July	2	Patrick McKeon	91	0	0	"	Coachman.	Ireland.	26 "	"	Old Age.
"	23	Bridget McGrath	91	0	0	"	......	Ireland.	21 "	"	" "
August	7	Ann McGahan	95	0	0	"	......	Ireland.	30 "	"	Softening of Brain.
November	10	John McCanly	95	0	0	"	Gardener.	Ireland.	17 "	"	Diarrhœa.
December	4	Daniel McGillicuddy	96	0	0	"	Laborer.	Ireland.	18 "	"	Chronic Bronchitis.
"	21	Margaret Morgan	105	0	0	"	......	Ireland.	6 "	"	Old Age.
"	29	Ellen Moran	100	0	0	"	......	Ireland.	23 "	"	" "
July	1	Jane Patterson	95	0	0	"	......	Scotland.	29 "	"	" "
October	11	James Quail	102	0	0	M.	Laborer.	Ireland.	23 "	"	" "
July	7	William G. Lutherland	90	0	0	W.	......	United States.	70 "	"	" "
September	7	Frank Shay	90	0	0	"	Laborer.	Ireland.	40 "	"	" "
November	8	Thomas Shannon	90	0	0	"	Farmer.	New York.	2 "	"	Apoplexy.
July	31	Catharine Walker	93	0	0	"	......	Ireland.	29 "	"	Phthisis.
August	17	Margaret Wilson	90	0	70	"	......	Ireland.	30 "	"	Old Age.
October	23	Rebecca Withcrusse	93	6	0	"	......	New Jersey.	5 "	"	Dysentery.
February	19	Phebe A. Dobson	90	2	0	"	......	Ireland.	60 "	"	Old Age.
May	20	Ann Lealy	100	0	0	"	......	Ireland.	20 "	"	" " [Pneumonia
"	26	Daniel Woods	93	0	0	"	Produce dealer.	Ireland.	30 "	"	Old Age (Anæmia Cerebis

There were 70 persons who died at the age of 90 years and upwards; 27 males and 43 females. 40 were of Irish birth, 13 of native, 8 Germans, 4 English, 2 Scotch, 2 West Indians and 1 Bohemian. 14 were represented to be 100 years old or more, of whom one was said to be 108, one 106, one 105, two 103, and two 102 years old. Ten of the centenarians were Irish females, 3 Irish males, and 1 a West Indian female. Of all dying at 90 years old or upwards, 10 died in October, 9 in March, 7 in January, February and August respectively, 6 in May, July and December respectively, 5 in November, 3 in April, and 2 in June and September respectively.

TABLE No. XXVIII.

DEATHS FROM SUDDEN AND VIOLENT CAUSES, AND FROM DISEASES CERTIFIED BY CORONORS,

OCCURRING IN THE CITY OF NEW YORK DURING THE TWELVE MONTHS ENDING DEC. 31ST, 1871.

ACCIDENT AND NEGLIGENCE.	
BURNS AND SCALDS.	
At a fire	1
By clothes taking fire from matches, fires, &c.	31
By clothes taking fire from bonfire	1
" " " candle	1
" " " lighted wood	1
" " " safety liquid gas	2
" " " kerosine	15
" burns (not specified)	1
" beef tea	1
" coffee	7
" chocolate	1
" catsup	1
" explosion of gunpowder	1
" fall against a stove	2
" " into pan of hot water	1
" " " vat " beer	1
" " " " boiling soap	1
" milk	2
" soup	3
" tea	8
" water	30
	112
DROWNING.	
In boiler	1
" pail	2
" river	184
Effects of immersion	3
	190
EXPLOSION OF BOILER (STEAMER WESTFIELD).	
By drowning	19
" fractures	9
" scalds	54
	82
FRACTURES AND CONTUSIONS.	
Bursting of a fly wheel	1
Crushed by block of marble	2
" " barrel	1
" between boat and dock	2
Crushed by garden roller	1
" " spiles	1
" between street cars	2
" " vessels	1
Caving in of embankment	7
Caught by elevator	1
" hawser	1
" hoist rope	1
" linch-pin of car	1
" in machinery	14
Collision of street car and locomotive	1
" vehicles	2
Discharge prematurely of toy cannon	1
Dragged over dash-board of car	1
" by a car	1
Explosion of boiler	1
" blast	3
" gunpowder	1
" nitro-glycerine	1
" steam chest	1
" torpedoes	3
Fall of awning	1
" bar of iron	3
" brick	2
" bale of hides	1
" " hay	1
" box	2
" beam	2
" boom	1
" barrel	3
" derrick	1
" dummy	1
" elevator	2
" grindstone	1
" hand barrow	1
" iron awning post	1
" " basin	2
" " column	1
" " hook	1
" " pipe	1
" log	3
" piece of ice	1
" rock	3
" stone	1
" " ballast	1

TABLE No. XXVIII—*Continued.*

Fall of shelves	1
" telegraph pole	1
" tree	1
" timber	1
" weight	1
" wall	3
Fall from awning	2
" into area	5
" against beam	1
" from "	1
" " bed	3
" " building	9
" between barges	1
" into cellar	4
" from cart	3
" " chair	5
" against chair	1
" over chair	1
" in coal yard	1
" from dummy	1
" " elevator	2
" " fire escape	5
" into hold of vessel	6
" through hatchway of vessel	5
" " "	16
" in hall	1
" from horse (runaway)	5
" on ice	1
" from ice box	1
" through ladder-way	1
" from ladder	2
" " lumber pile	2
" " mast of vessel	2
" " piazza	1
" " plank	1
" " rail of vessel	1
" " rocks	2
" " roof	11
" in room	1
" on rail road	1
" from scaffolding	12
" " shed	3
" " stoop	1
" " steps	4
" " swing	1
" " scenery of theatre	1
" " saw-horse	1
" " street car	3
" down stairs	26
" through skylight	1
" in street	15
" on vessel	4
" from tree	3
" " telegraph pole	1
" " truck	7
" " wagon	4
" " window	41
" " water spout	1
" " yard-arm of vessel	1
" (otherwise not specified)	10
Fracture of thigh (sea washing over deck)	1
" while wrestling	1
" " skylarking	1
" " lifting a wagon	1
Fracture by propeller blade	1
Hand crushed by box lid	1
Horse stepping on foot	1
Kick of a horse	5
Leap against beam	1
" from carriage	1
" " ladder	1
" " railroad train	1
" " window	3
Struck by boat hook	1
" capstan bar	1
" handle of derrick	1
" elevator	2
" railroad train	7
" splinter from circular saw	1
" lever	1
" piece of iron	1
" truck	1
Other fractures (means uncertain or not specified.)	17
	394

WOUNDS.

Cutting a corn	1
Circular saw	4
Fall on meat hook	2
" broken glass	1
Gunshot	17
Incised (means not specified)	4
Musquito bite	1
By a nail in foot	1
" pin	1
" pen	1
" plate	1
Puncture of foot	3
By piercing of ears	1
" scissors	1
Stab while skylarking	1
By slate pencil	1
" threshing machine	1
Gored by mad bull	2
	44

POISON ACCIDENTAL.

By alcohol	1
" carbolic acid	2
" chloroform (drinking)	1
" creasote	1
" colchicum (overdose)	1
" chamomile (")	1
" hydrate of chloral	1
" lead (colic)	2
" lime-water	1
" mercurial salivation	1
" oxalic acid	1
" strychnine	1
	14

RUN OVER.

By street railroad cars	52
" steam " "	24
" other vehicles	37
	113

TABLE No. XXVIII—*Continued.*

SUFFOCATION—ACCIDENTAL.

By artificial teeth	1
" bed clothes	1
" " and matress	1
" Bone lodging in bronchus	1
" coal gas	5
" fall into manure heap	1
At a fire	1
By gas (kind unspecified)	4
" illuminating gas	3
At mother's breast	5
In mother's arms	2
Overlaid in bed	14
By piece of meat	2
" " apple-cake	1
In privy vault	1
By smoke	1
" means uncertain or not specified	1
	45

MILITARY CONFLICT.

Riot, July 12th	53

HOMICIDE.

Abortion	2
Asphyxia	6
Blows	29
Bite of thumb	1
Cut or stab	11
Dislocation of spine	1
Fracture of tibia	1
Gunshot	6
Kick	1
Pushed off street car	2
Rupture of spleen	1
Run over	1
Wounds	3
	65

SUICIDE.

Abortion	1
Cut or stab	16
Drowning	6
Gunshot	23
" and hanging	2
Hanging	18
Jumping from height	5
" " railroad train	1
Poison by arsenic	1
" acid (kind unspecified)	1
" chloroform	3
Chronic opium poisoning	1
Corrosive poison (kind unspecified)	1
Poison by ether	1
" laudanum	8
" morphine	3
" narcotic poison	1
" opium	2
" Paris green	12
" prussic acid	3
" sulphuric acid	1
" strychnine	1
" (unspecified)	2
	114

EXECUTION.

John Thomas Rosenville	1

NEGLECT AND EXPOSURE.

Neglect and exposure	14

Diseases certified by Coroners	1,590

RECAPITULATION OF DEATHS FROM SUDDEN AND VIOLENT CAUSES.

Accidents and negligence	994
Execution	1
Homicide	65
Neglect and exposure	14
Military conflict	53
Suicide	114
Surgical operations	63
Total	1,304

SURGICAL OPERATIONS FOLLOWED BY DEATH,—TIME FROM OPERATION TO DEATH.

Amputation of Breast for Cancer.	(not stated.)
" " " " " (Pyæmia,)	13 days.
" " " for Cancer	3 "
" of Hip for Necrosis of stump	(n. s.)
" " Thigh " Gangrene of Thigh	3 days.
" " " " " " Leg	9 "
" " " " Fracture " " (Tetanus.)	6 "
" " " " Necrosis	11 "
" " Knee joint for Necrosis of Tibia.—(Sec. Hæmorrh'g.)	(n. s.)
" " Foot for Osteo Sarcoma.... (Septicæmia.)	14 days.
" " Toes for Frost-bite	26 "
Circumcision. (Erysipelas.)	7 "
Excision of Great Trochanter for Hip Disease.	2 mos.
" " Epithelioma, (Pyæmia.)	(n. s.)
" " Supra-orbital Dermoid Cyst (Erysip.—Pyæmia.	17 days.
" " Cysto Sarcoma of Shoulder.	3 "
" " " " " Coccyx. (Meningitis.)	8 "
" " Fibroid Tumor of Uterus.. (Peritonitis and Hæm.)	(n. s.)
" " Fibro Cystic Tumor of Uterus,	39 hrs.
" " Polypus " " (Shock and Exhaustion.)	(n. s.)
" Ovarian Tumor, (Internal Hæmor,)	31 hrs.
" " "	3 days.
" " " (Peritonitis.)	4 "
" " " "	11 "
" " " "	6 weeks.
" " " "	(n. s.)
" " " "	"
" " " (Septicæmia.).	"
" " "	
" " (Colloid Tumor of Uterus and Ovary)	"
" Supposed Ovarian Tumor....... (Miscarriage—Peritonitis.)	3 days.
" of Fatty Tumor of Spermatic cord. (Pyæmia.)	(n. s.)

TABLE No. XXVIII—*Continued.*

Ligation of Femoral Artery, (Phlebitis.)	(n. s.)
" " Com. Iliac for Aneurism of Ext. Iliac—(Pyæmia.).....	4 weeks.
Lumbar Colotomy for Cancer of Rectum. (Erysip.—Pyæmia.)	5 days.
" " for Stricture of Rectum....	4 "
Operation for Imperforate Colon...... (Peritonitis.)	6 "
" " " Anus........	18 hours.
" " " "	3 days.
" " " " (Erysip.)..	10 "
" " " "	(n. s.)
" " " "	"
" " Spina Bifida..............	3 days.
" " Hare Lip, (Convulsions.)	30 hours.
" " Stricture of Urethra—by Perineal Section..	(n. s.)
" " Fistula in Ano.	"
" " Stone in Bladder (Hæmorr'g.).....	30 hours.
" " Stone in Bladder, (by dilating Urethra.)..... (Septicæmia.)........	6 days.
Op. for Stone in bladder, (Bronchitis)...	9 days.
" " (Perinephritic Abscess.)	(n. s.)
" Femoral Hernia—(Gangrene of Bowels,......................	14 hours.
" Ventral Hernia. Strangulated....	16 "
" Inguinal " " (Peritonitis.).	2 days.
" " " "	3 "
" Umbilical " " (Peritonitis.).	5 "
Plastic Op. on leg—(Pyæmia.)...........	5 "
Tracheotomy for Croup................	12 hours.
" " "	1 day.
" " "	30 days.
" " "	4 "
" " "	12 "
" " "	(n. s.)
" " Laryngitis......	3 days.
" " Diphtheria............	(n. s.)
Total Operations............................	63
In Hospitals..................................	28
In Private Practice............................	35

DEATHS BY VIOLENT CAUSES.

Owing to the careful manner in which, at our solicitation, the Coroners' certificates were filled out during the year 1871, the list of violent deaths now presented is exceedingly complete. 1071 deaths were referred to accident and negligence, including 14 from neglect and exposure, and 63 the result of surgical operations; none of the latter were Coroners' cases, no accurate record of surgical operations following accidents having been obtained. Of the 1071 deaths, 829 were in males and 242 in females; 194 being in children less than 5 years old. Burns and scalds furnished 112 deaths, 62 of which were of small children; 15 persons were burned to death by ignited kerosene and 2 by "Safety Liquid Gas," a melancholy satire! Of these 17 all were women except two. 187 persons were drowned and 3 died after being rescued from immersion; most of the former were found in the river some time after death. 394 persons died from the effects of fractures and contusions produced by every variety of accident, and 44 from wounds similarly received. 45 were accidentally suffocated, 14 being babies overlaid in bed There were 14 fatal cases of accidental poisoning. 82 deaths took place in this city as the consequence of the boiler explosion upon the Staten Island ferryboat Westfield, while lying at her dock foot of Whitehall street, on Sunday, July 30th, 1871. 19 of her passengers were thrown overboard and drowned at once; 54 died from scalds, 9 from fractures caused by pieces of the boiler, splinters, &c.; 58 were males and 24 females, 38 natives and 44 foreign; 2 were infants less than a year old, 8 less than 5 years old, and 5 over 60 years old. Besides these deaths 7 additional occurred in Brooklyn as a result of the explosion, making a total of 89 victims of that memorable catastrophe. 93 persons died from injuries received in various ways by steam and street railroad cars. The following number of deaths was caused by the respective railroad lines named:

Hudson River R. R. (steam) on west side of Island	15
Hudson River R. R. (freight) on west side of Island	2
Harlem R. R. (steam) between 42d street and Harlem River	2
New Haven R. R. (steam) between 42d street and Harlem River	7
Line unspecified (steam) between 42d street and Harlem River	2
Third avenue street cars	14
Belt “ “	9
First and 2d av. “ “	8
Seventh ave. “ “	5
Bleecker St. “ “	3
Grand & 42d St. “ “	3
E. Broadway & Dry Dock street cars	3
4th and Madison avenue “ “	2
Avenue C. street cars	2
Broadway “ “	1
Sixth avenue “ “	1
Eighth “ “ “	1
Ninth “ “ “	1
Line unspecified, street cars	2
Hand-car	1
Hunter's Point, L. I. street car	
Steam cars in Westchester county	2
“ “ “ Long Island	2
“ “ “ New Jersey	3
Total	92

RIOT OF JULY TWELFTH.

On July 12th, 1871, a procession of Orangemen escorted by several city military regiments and a large body of police, was proceeding down the Eighth avenue between 29th and 23d streets, when it was fiercely assailed on every side with missiles of various sorts shot or hurled from sidewalks and houses. Retaliation on the part of the police and soldiery followed immediately. The former used their clubs upon the spectators nearest to them, while the latter poured a deadly fusillade into the dense crowd upon the street, a few shots being directed toward houses supposed to harbor rioters. The whole conflict occupied but a few moments; the terrified mob instantly dispersed wildly in every direction; the smoking muskets once more pointed their glittering lines toward the blue heaven; the thrilling march resounded; the troops resumed their martial tramp; and the pageant vanished. We need not attempt to describe the scene of agony and death which was left behind; it is still fresh in the recollection of the community, as portrayed by the public press. Of the whole human holocaust sacrificed to the demon of religious intolerance between fellow countrymen, 34 persons were either slain outright or expired within a few hours; and day after day afterward they continued to die until the number 54* was at last complete. How many may have been wounded and subsequently recovered it is impossible to state; but we have good reason to believe that every death was registered, as, for a month afterward, we scrutinized carefully all circumstances which could possibly lead us to suspect any death to have resulted from injuries received at the riot. We deemed it due also to the future student of our municipal history to elicit, as far as practicable, the truth in regard to what motives impelled to the fatal spot those destined to be killed; and after the cessation of the general excitement, we instituted a thorough personal investigation of every case. As the result of this examination, we present a brief and authentic history of all facts known to have influenced the presence at the scene of the riot of every individual victim. The following summary of this table may be interesting. The ages of those killed varied from 12 to 73

*One of these died in Brooklyn.

years; and among them were 2 females—the girl Mary York and the woman Sarah Kenney. There were 27 Irish, (who predominate among the population in the neighborhood of the riot), 15 Americans; 4 Germans; 3 English; 1 Scotch; 1 Australian; 1 Canadian, and 2 not identified, one of whom was apparently an American, and the other an Irishman; 30 were Catholics, and 22 Protestants; 3 were soldiers in the 9th regiment, supposed, but not proven, to have been shot by rioters; 1 was a colored man, and another a deaf mute; 3 were school children; 13 were common laborers, many of whom started from home in the morning with the intention of going to work, but were either driven away by gangs of evilly-disposed men, or were discharged for the day by their "bosses." Only 4 were known to belong to Roman Catholic societies. In all probability but 12 out of the whole number were engaged in the attack, and even some of these cases are hypothetical. The rest were mainly innocent spectators like a hundred thousand others upon the line of march; and quite a number were in the neighborhood for business purposes.

TABLE No. XXIX.

CIRCUMSTANTIAL ACCOUNT OF THE VICTIMS OF THE RIOT, JULY 12th, 1871.

Date of Death.	Name of Deceased.	Age.	Catholic or Protest'nt	Married or Single.	Nativity.	Nativity of Father and Mother.	Residence of Decease
July 12.	P. M. Ackerman..	73	P.	M.	New York....	Both United States...	282 Eighth Avenue
" 12.	C. Buckland......	29	P.	M.	Australia... .	Father, England .... Mother, Scotland.....	509 W. 28th Street
" 14.	J. A. Clark.......	44	C.	M.	New York....	Both England........	139 E. 110th Street
" 13.	T. Dugdale.......	35	P.	M.	England	Both England........	266 W. 25th Street
" 12.	R. A. Douse......	56	P.	M.	Pennsylvania.	Both Pennsylvania...	102 Greene Street
" 13.	B. F. Erskine ...	17	P.	S.	New York...	Both United States...	261 W. 39th Street
" 26.	J. W. Firehock ...	29	P.	S.	New York ...	Both United States...	284 Rivington...
" 12.	J. Garrity........	19	C.	S.	New York....	Both Ireland.........	81 Carmine........
" 13.	A. P. Gilbert.....	38	P.	M.	Connecticut..	Both Connecticut.....	Brooklyn ....
" 12.	M. Holway.......	28	C.	M.	Ireland	Both Ireland.........	76th St. & First Ave
" 12.	W. Hartwig	40	P.	M.	Germany	Both Germany	Hudson City, N. J..
" 12.	T. Hanlon........	28	C.	..	Ireland	Both Ireland.........	Not stated.........
" 12.	F. Heiness.......	39	P.	M.	Germany	Both Germany	Brooklyn ....
" 17.	A. W. Harrington.	61	P.	M.	Canada.......	Father, New York;... Mother, Not stated...	Brooklyn ....
" 20.	C. Kaltenbach....	29	C.	M.	Germany	Both Germany	80½ Attorney ......

TABLE No. XXIX.—*Continued.*

CIRCUMSTANTIAL ACCOUNT OF THE VICTIMS OF THE RIOT, JULY 12th, 1871.

Occupation.	Member of any Society.	Location of Wound.	Circumstances connected with presence of Deceased at the Riot.	Probability whether Rioter or Not
Shoemaker	None.	Lung	Went to the roof of his house to view the procession, accompanied by a young lady living in the same house; while leaning over balustrade was shot.	Innocent.
Carman	None.	Abdomen	Had been sick for two weeks; went out for a short walk; was joined by Pettit, and both were killed at the same time.	Innocent.
Papermaker	None.	Bladder	Proceeded to his place of business, 226 W. 26th Street, in the morning; left there in the afternoon to return home, and was shot on the way.	Innocent.
Clerk	None.	Breast and Arm	Went home to dinner from the Erie R. R. office, where he was employed, and then returned to his business; on his way home again from the office, he stopped on the steps of the Utah House to view the procession, and was then shot.	Innocent.
Steward & Cook		Groin	A colored man; left home about 11 A.M. to go up town and see the procession.	Innocent.
Clerk	Not stated	Leg	Went out with another young man to view the procession.	Innocent.
Embosser	None.	Pelvis	Was out of employment at the time; left home about 10 A.M.; called on a friend in Delancey Street, where he met Kaltenbach, and accompanied him to Seventh Avenue on business; afterwards persuaded K. to go with him to see the procession; they were both mortally wounded.	Innocent.
Not employed.	None.	Breast	Went out at 7 A. M.; came home to dinner at noon, and then left to go up town.	Innocent.
Printer		Spine	About 10 A.M. left *Herald* office with another gentleman.	Innocent.
Laborer	None.	Head	Left home at 7 A. M. to go to his work; was probably discharged for the day by his boss, and joined the rioters.	Rioter.
Cigarmaker	None.	Chest	Was a deaf mute; worked from 6 A. M. till noon, and then left the shop with the intention of going to see the procession.	Innocent.
Laborer	Not stated	Head	Identified by some person, but never claimed by friends; no further information could be obtained.	Rioter.
Porter	None.	Breast	Was unemployed; left home at 8 A. M. to seek employment.	Innocent.
Agent	Not stated	Thigh	Left home at 9 A.M. to attend to business in New York; went to Eighth Avenue for the purpose of getting a car to go down town.	Innocent.
House Agent.	Not stated	Back and Shoulder	About 2.30 P. M. left a friend's house on Seventh Avenue, near 21st St., where he had been on business; was in company with Firehock, who asked him to go to Eighth Avenue and see what was going on; he refused at first, but was finally induced to go.	Innocent.

TABLE No. XXIX.—*Continued.*

CIRCUMSTANTIAL ACCOUNT OF THE VICTIMS OF THE RIOT, JULY 12th, 1871.

Date of Death.	Name of Deceased.	Age.	Catholic or Protest'nt	Married or Single.	Nativity.	Nativity of Father and Mother.	Residence of Deceased
July 12.	M. Kelly	21	C.	S.	Ireland	Both Ireland.........	317 E. 37th.........
" 12.	Sarah Kenney....	30	C.	M.	Ireland	Both Ireland.........	Brooklyn ....
" 12.	T. Kerrigan	21	C.	S.	Ireland	Both Ireland.........	462 W. 42d ....
" 24.	H. Langstaff......	22	C.	S.	Ireland	Both Ireland........	Brooklyn ....
" 15.	W. T. Latimer....	49	P.	M.	Connecticut..	Both Connecticut.....	Fourth Av. & 24th St.
" 12.	J. Lavery	23	C.	S.	Ireland	Both Ireland.........	364 Tenth Avenue .
" 14.	M. Leahy	39	C.	M.	Ireland	Both Ireland.........	894 Second Avenue.
" 12.	J. Love	21	P.	M.	Ireland	Both Ireland.........	179 Bowery ... ..
"	T. McCleary......	25	C.	M.	Ireland	Both Ireland.........	Brooklyn...........
" 12.	P. Manahan......	18	C.	S.	Ireland	Both Ireland........	90 Henry Street ....
" 12.	T. McCormick....	17	C.	S.	England	Both Ireland........	309 Ninth Avenue..
" 12.	M. McCormack...	55	C.	M.	Ireland	Both Ireland........	381 Second Avenue.
" 13.	D. McMahon.....	35	C.	M.	Ireland	Both Ireland..... ...	83d St. & Fourth Av.
" 14.	W. McGrath......	25	C.	S.	Ireland	Both Ireland.........	119th St. & Sec. Av.
" 12.	J. D. Mullen	24	C.	S.	Ireland	Both Ireland.........	502 W. 29th ....
" 12.	D. Mulvey........	27	C.	S.	Ireland	Both Ireland. . . .	206 E. 26th.........
" 18.	P. McCaffray	55	C.	Wid.	Ireland	Both Ireland.	147½ Washington..
" 14.	M. O'Shea........	20	C.	M.	Ireland	Both Ireland.........	1294 Third Avenue.

TABLE No. XXIX.—*Continued.*

CIRCUMSTANTIAL ACCOUNT OF THE VICTIMS OF THE RIOT, JULY 12th, 1871.

Occupation.	Member of any Society.	Location of Wound.	Circumstances connected with presence of Deceased at the Riot.	Probability whether Rioter or Not
Quarryman...	St. Patrick's............	Chest	Came home at 9.30 P. M., having been driven from work by a gang of men; left home again at 10.	Rioter.
Shopkeeper ..	....	Head............	Cautioned her husband when he left home not to go near the procession; went away herself at 10 A. M. to purchase groceries.	Innocent.
Laborer.....	Not stated..............	Head............	Came home from work about 8 A. M., having been discharged for the day by his boss; changed his clothes, and was met at his door by another man, with whom he went away.	Rioter.
Cooper.......	Not stated..............	Elbow and Knee..	Did not go to work; left home at 9 A.M. to view the procession.	Rioter.
Merchant	Not stated..............	Jaw..............	Went up town on business, and was shot just after leaving the car.	Innocent.
Barber.......	None	Head............	Left home about 10.30 A. M. to view the procession.	Innocent.
Laborer......	None	Both Arms.......	Did not go to work; was heard to make threats; reputation bad.	Rioter.
Clerk	None	Head............	Left home at 10.30 A. M.; an inoffensive man.	Innocent.
Liquor Dealer	Not stated.........	....	Went with his barkeeper to New York about 11 A.M.; both were badly wounded, and were brought home by friends; reputation bad.	Rioter.
Tinsmith	None	Spine	Was advised to go and see the procession, but said he would not; had expressed his disapproval of any attack on the Orangemen; left home at 11 A.M.	Innocent.
Schoolboy....	None	Back	Came home from school at 1 P.M.; heard the music, and went out, as he told his mother, to hear the bands playing.	Innocent.
Laborer....	Not stated..............	Chest	Came home from work to dinner at noon; changed his clothes, and went out with the intention of visiting a sick brother; was shot on the way.	Innocent.
Laborer......	Hibernian..............	Hip and Abdomen.	Went to work in the morning, but was discharged for the day by his "boss;" came home, changed his clothes, and left at 11 A.M.	Rioter.
Coachman ...	None	Arm	Did not go to work; left home at 11 A.M.	Rioter.
Expressman..	St. Patrick's............	Head............	Left home before 2 P. M., stating to his sister that he was going up town; had expressed himself strongly as opposed to any demonstration against the Orangemen.	Innocent.
Laborer.....	Immaculate Conception.	Chest	Left home about 11 A. M., but was seen in his own neighborhood about 2 P.M.	Innocent.
Laborer.....	Not stated..............	Wrist & Abdomen.	Was an invalid and unable to work; left home at 8 A. M. to visit a relative residing at Ninth Avenue and 12th St., with whom he remained until 2 P. M.	Innocent.
Plasterer.....	Plasterers' Society	Head............	Had been married only six weeks; went to work, but quit on account of the absence of fellow-workmen; came home at 9 A. M., changed his clothes, and went out; an inoffensive man.	Innocent.

TABLE No. XXIX.—*Continued.*

CIRCUMSTANTIAL ACCOUNT OF THE VICTIMS OF THE RIOT, JULY 12th, 1871.

Date of Death.	Name of Deceased.	Age.	Catholic or Protestant	Married or Single.	Nativity.	Nativity of Father and Mother.	Residence of Decease
July 12.	H. C. Page	42	P.	S	England	Both England	…………
" 17.	W. R. Prior	24	P.	S.	New Orleans	Father, England Mother, United States.	…………
" 12.	C. H. Pettit	28	P.	S	Virginia	Both United States	332 W. 19th
" 12.	J. Riley	26	C.	M.	Ireland	Both Ireland	60th St. & First Av.
Aug. 4.	J. J. Bourke	23	C.	S.	Ireland	Both Ireland	46th St. & Sixth Av.
July 12.	W. Shorten	19	P.	S	New York	Both Ireland	120 First Avenue
" 12.	W. J. Scott	30	P.	S.	Ireland	Both Ireland	Brooklyn
" 16.	P. Sherry	21	C.	S.	Ireland	Both Ireland	19th St. & Eighth Av.
" 12.	P. Slattery	46	C.	M.	Ireland	Both Ireland	277 Rivington
" 12.	T. J. Spring	16	C.	S.	New York	Both Ireland	7 Battery Place
" 18.	O. Stouton	18	C.	S.	Ireland	Both Ireland	305 E. 24th
" 12.	T. Sullivan	30	C.	M.	Ireland	Both Ireland	102 Bayard
" 12.	W. Tighe	26	C.	S.	Ireland	Both Ireland	358 W. 36th
" 12.	S. Wyatt	30	..	M.	New York	Both New York	…………
" 12.	G. M. Washburn	26	P.	M.	Massachusetts	Both Massachusetts	40 Division
" 13.	J. Ward	30	C.	S.	Scotland	Both Scotland	521 W. 42d
" 12.	J. A. Whiteside	27	P.	S.	Ireland	Both Ireland	207 W. 26th
" 12.	Mary York	12	P.	S.	New York	Both Ireland	224 W. 18th
" 12.	C. Ziegler	28	P.	M.	Germany	Both Germany	230 Elizabeth

TABLE No. XXIX.—*Continued.*

CIRCUMSTANTIAL ACCOUNT OF THE VICTIMS OF THE RIOT, JULY 12th, 1871.

Occupation.	Member of any Society.	Location of Wound.	Circumstances connected with presence of Deceased at the Riot.	Probability whether Rioter or Not
Actor	Not stated......	Head............	Soldier in the Ninth Regiment; supposed to have been killed by a rioter.	Innocent.
Photographer.	Not stated...	Leg	Soldier in the Ninth Regiment; supposed to have been killed by a rioter.	Innocent.
Butcher......	None.......	Heart	Kept a butcher-shop corner of Ninth Avenue and 19th Street; left home a short time previous to the firing, and was killed at the same time with a companion named Buckland.	Innocent.
Laborer......	Not stated..........	Head.	Came home from work in forenoon; changed his clothes and left again about noon.	Rioter.
Car Conductor	None.............	Thigh............	Not employed; went to see procession during forenoon.	Innocent.
Jeweler	None	Head.............	About 1 P. M. was sent on an errand by his brother.	Innocent.
Clerk.........	None	Abdomen	Shortly after 2 P.M. left his aunt's home, 51st Street, near Tenth Avenue, where he had been on business; was shot on Eighth Avenue, near 25th Street, by a man in the window of a house opposite.	Innocent.
Expressman..	Not stated	Thigh	Worked until noon; went with his brother to see the procession; both were active rioters; his brother's head was beaten by the Police, and he was shot.	Rioter.
Park Laborer.	None	Lung and Wrist..	Left his work with a gang, and went to the scene of the riot.	Rioter.
Schoolboy....	None	Groin	Left home at 10 A. M.	Innocent.
Milkman	None	Thigh........ .	Attended to his business during the forenoon; about 1 P.M. went with another boy to view the procession.	Innocent.
Laborer......	W. M. Tweed Benevolent	Head......	At 6 A. M. left home to go to work; returned at 9 A. M. and said his fellow-laborers were not working; dressed himself and went out; a quiet man.	Innocent.
Laborer......	None	Chest	At work during forenoon, and returned home to dine, going out again about 1 P. M.	Innocent.
Jeweler	Not stated	Abdomen	Soldier of the Ninth Regiment; supposed to have been shot by the rioters.	Innocent.
Hatter	Not stated...............	Spine	Left his place of business with a friend at 10 A.M. to go see the procession.	Innocent.
Carver	None	Bladder	At work in forenoon; came home to dinner, and left with the intention of going to work again; strongly disapproved of any demonstration against the Orangemen.	Innocent.
Milkman. ...	Not stated......... ..	Chest	Was a simple spectator of the procession near his residence.	Innocent.
Schoolgirl ...	....	Head.	Was taken about 2 P. M. by a female neighbor to view the procession; was supposed to have been shot by a rioter.	Innocent.
Shopkeeper ..	....	Heart	Left home at 10.30 A. M. to visit some friends.	Innocent.

Besides the above there were two victims never identified.

TABLE No. XXX.

SUICIDAL DEATHS.

CLASSIFIED BY DATES, AGES, CONDITION, OCCUPATIONS, NATIVITIES AND MEANS USED. TWELVE MONTHS ENDING DECEMBER 31ST, 1871.

Date.		Age.	Condition	Occupation.	Nativity.	Means Used.
January	2..	24	M.	Domestic	Canada	Paris Green.
"	5..	63	S.	Waiter	France	Paris Green.
"	26..	37	S.	Ex-Capt. Br. Army	England	Opium.
"	29..	22	S.	Clerk	England	Morphine.
February	5..	34	S.		New York	Hanging.
"	8..	57	M.		Maine	Hanging.
"	9..	18	S.	Clerk	Delaware	Gunshot (Head).
"	15..	25	S.	Stationer	New York	Inhaling Sulphuric Ether.
"	20..	47	M.	Tailor	Germany	Hanging.
"	25 .	53	M.		New York	Paris Green.
March	1..	52	M.		Ireland	Paris Green.
"	3..	27	S.	Army Officer	New York	Morphine.
"	8..	57	S.	Plumber	Ireland	Cutting Throat.
"	17..	36	..		Switzerland	Laudanum.
"	18..	45	W.	Dressmaker	Ireland	Hanging.
"	22..	44	S.	Laborer	Scotland	Hanging.
"	24..	48	M.		New York	Paris Green.
"	27..	32	M.	Cigarmaker	Germany	Drowning.
"	28..	55	M.	Stableman	Ireland	Hanging.
"	30..	22	M.		New York	Gunshot (Heart).
"	31..	59	W.		Scotland	Cutting Throat.
April	1..	67	W.	Inventor	Maine	Hanging.
"	2..	27	M.	Clerk	Ireland	Laudanum.
"	8..	28	M.		New Jersey	Drowning.
"	10..	45	M.	Shoemaker	Germany	Leap f'm Window (Cutting Throat).
"	11..	65	M.	Laborer	Ireland	Cutting Throat.
"	13..	24	M.	Photographer	Michigan	Gunshot (Heart).
"	25.	30	W.	Pauper	United States	Laudanum.
"	26..	34	M.	Druggist	England	Chloroform.
"	28..	47	S.	Hatter	Ireland	Drowning.
"	28..	17	S.	Druggist (apprentice).	England	Prussic Acid.
May	2..	35	..		United States	Chloroform.
"	4..	32	S.	Cook	New York	Opium.
"	19..	16	..		New York	Gunshot (Lungs & Stomach)
"	26..	48	M.	Jeweler	France	Cutting Throat.
"	28..	26	S.	Bookkeeper	United States	Gunshot (Chest & Head)
"	31..	35	W.	Merchant	Massachusetts.	Gunshot (Chest).
June	3..	34	M.		Germany	Cutting Throat.
"	3..	48	M.	Laborer	Ireland	Hanging.
"	5..	14	S.		New York	Gunshot (Abdomen).
"	11..	36	W.	Furrier	Germany	Chloroform.
"	11.	33	M.		Ireland	Paris Green.
"	15..	50	M.	Tailor	Germany	Gunshot (Breast).
"	18..	36	M.	Physician	Ireland	Cutting Throat.
"	20..	86	W.		Scotland	Cutting Throat.
"	20..	22	M.	Prostitute	Ireland	Laudanum.
"	20..	22	S.	Dentist	New York	Strychnine.
"	23..	35	S.		England	Narcotic Poison.
"	27..	36	M.		Ireland	Paris Green.
"	29..	37	W.		Germany	Hanging.
"	30..	43	M.		Ireland	Drowning.
July	3..	28	W.		Germany	Gunshot (Heart).
"	6..	55	M.	Merchant	N. Hampshire.	Laudanum.
"	6..	65	W.		Ireland	Gunshot (Abdomen).
"	9..	30	S.	Chemist	Switzerland	Poison (not stated).
"	11..	56	M.	Candlemaker	England	Cutting Throat.
"	16..	29	M.	Druggist	Ireland	Cutting Throat.
"	18..	29	S.	Cigarmaker	Cuba	Leap from Window.
"	25..	40	M.		Germany	Laudanum.
"	25..	23	S.		Virginia	Gunshot (Chest).
"	25..	23	S.		Ireland	Hanging.
"	30..	55	M.	Clerk	New Jersey	Gunshot (Abdomen).
"	31..	51	M.	Merchant	New York	Cutting Throat.
August	4..	50	M.	Machinist	Germany	Arsenic.
"	9..	24	M.		Germany	Leap from Window.
"	14..	48	M.	Cartman	Ireland	Paris Green.
"	21..	40	M.	Cartman	Ireland	Cutting Throat.
"	24..	40	S.	Machinist	Germany	Cutting Throat.
"	24..	37	S.	Tailor	Germany	Gunshot (Heart).
"	25..	27	S.	Shoemaker	Ireland	Drowning.
"	29..	25	S.	Sewing	Canada.	Abortion.
"	31..	20	S.	Druggist	Germany	Morphine.
September	1..	40	M.	Carpenter	Germany	Gunshot and Hanging.
"	6..	38	M.	Housekeeper	France	Paris Green.

TABLE No. XXX.—*Continued.*

SUICIDAL DEATHS.

CLASSIFIED BY DATES, AGES, CONDITION, OCCUPATIONS, NATIVITIES AND MEANS USED. TWELVE MONTHS ENDING DECEMBER 31ST, 1871.

Date.		Age.	Condition	Occupation.	Nativity.	Means Used.
Septem.	10..	45	M.	Planter	Florida	Gunshot (Head).
"	10..	26	S.	Bookkeeper	Germany	Drowning.
"	10..	45	S.	Watchmaker	Germany	Gunshot (Chest).
"	19..	67	M.		Germany	Hanging.
"	22..	70	M.		Germany	Cutting Throat.
"	24..	60	M.	Laborer	Ireland.	Laudanum.
"	27..	45	S.	Housekeeper	Ireland	Paris Green.
"	27..	42	M.	Commercial Agent	England	Corrosive Poison.
"	28..	60	M.	Clerk	Vermont	Gunshot (Head).
"	30..	28	M.	Agent	Vermont	Corrosive Poison.
October	3..	72	W.	Jeweler	Germany	Acid Poison.
"	7..	28	M.	Saloon	Germany	Hanging.
"	10..	50	S.		New York	Cutting Throat.
"	10..	33	S.	Clerk	New York	Gunshot (Heart).
"	14..	23	S.	Machinist	Germany	Leap from Window.
"	15..	20	S.		New York	Prussic Acid.
"	16..	37	..	Laborer	Germany	Sulphuric Acid.
"	20..	26	S.	Boatman	Ireland	Cutting Throat.
"	22..	56	M.	Bookbinder	England	Paris Green.
"	25..	22	S.	Clerk	Germany	Gunshot and Hanging.
"	26..	10	S.		New York	Paris Green.
"	27..	22	S.	Carver	Germany	Gunshot.
November	1..	49	M.		England	Hanging.
"	2..	51	M.	Clerk	England	Hanging.
"	2..	54	..		Germany	Prussic Acid.
"	5..	25	S.	Pattern Grader	New York	Laudanum.
"	22..	25	S.	Cigarmaker	Belgium	Hanging.
"	26..	31	M.		Germany	Gunshot (Head).
"	28..	35	S.	Printer	Ireland	Hanging.
"	30..	27	M.		England	Paris Green.
December	4..	31	W.	Cigarmaker	Germany	Cutting Throat.
"	9..	30	M.		Ireland	Hanging.
"	12..	39	M.		Ireland	Gunshot (Head).
"	13..	33	M.		Ireland	Leap from Window.
"	13..	21	S.		Germany	Hanging.
"	15..	45	..		Denmark	Gunshot (Head).
"	16..	30	S.		Maryland	Chro. Opium Poisoning.
"	21..	33	S.	Mechanic	Germany	Gunshot (Head).
"	28..	23	M.	Clerk	New Jersey	Gunshot (Heart).
"	29..	34	W.	Cigarmaker	Germany	Jump from R. R. Train.

CAUSES CLASSIFIED.

Cause.	Number.	Cause.	N'mber.	Cause.	Number.
Abortion	1	Arsenic	1	Opium (Eater)	2
Cut-Stab	16	Acid	1	Opium (Chro. Pois'g).	1
Drowning	6	Chloroform	3	Paris Green	13
Gunshot	23	Corrosive	2	Prussic Acid	3
Gunshot and Hanging	2	Ether (Inhaling)	1	Sulphuric Acid	1
Hanging	18	Laudanum	8	Strychnine	1
Leap from Height	5	Morphine	3		
Leap from R. R. Train	1	Narcotic	1	Total	114
Poison (not stated)	1				

NATIVITIES.

Nativity.	Number.	Nativity.	N'mber.	Nativity.	Number.
Belgium	1	Germany	31	Unknown	..
Canada	2	Ireland	26	West Indies	1
Denmark	1	Scotland	3		
England	11	Switzerland	2	Total	114
France	3	United States	33		

Sexes—Males, 85; Females, 29.

SUICIDES.

114 persons committed suicide, against 101 in the previous year. 85 were males and 29 females. The youngest was ten years of age (a German girl, who took Paris-green from remorse at having been detected by her mother in a theft of fifty cents), and the oldest eighty-six. 42 poisoned themselves (4 by anæsthetics); 23 shot themselves; 18 hung themselves; 16 cut their throats; 6 drowned themselves; 5 leaped from windows (one of whom preceded that act by cutting his throat); 2 shot and then hung themselves; 1 leaped from a railroad train; and 1 committed an abortion upon herself.

The Germans, as usual, furnished a very large proportion of these deaths, amounting to 31, of whom 7 shot themselves; 5 hung themselves; 6 poisoned themselves; 4 cut their throats; 2 shot and then hung themselves; 2 drowned themselves; 2 leaped from windows; 1 cut his throat and then leaped from a window; 1 leaped from a train; and 1 took chloroform. The largest number was that of Americans, 33; of whom 13 shot themselves; 12 poisoned themselves; 3 hung themselves; 2 cut their throats; 2 inhaled chloroform or ether; and 1 drowned himself. Of the 26 Irish, 8 poisoned themselves; 6 hung themselves; 6 cut their throats; 3 drowned themselves; 2 shot themselves; and 1 leaped from a window. Of the 11 English, 7 took poison; 2 hung themselves; 1 took chloroform; and 1 cut his throat. 2 Scotchmen cut their throats, and 1 hung himself. 2 French persons took poison, and 1 cut his throat. 1 Canadian took poison, and 1 killed herself by an abortion. 2 Swiss poisoned themselves. 1 Belgian hung himself. 1 Dane shot himself, and 1 Cuban leaped from a window.

15 of those who took poison selected some narcotic agent; one of these was an instance of chronic opium poisoning; 14 chose some preparation of arsenic, usually Paris-green; 4 ether or chloroform; 3 prussic acid; 1 strychnine; 1 sulphuric acid; 4 some acid or corrosive poison not specified.

Among the occupations clerks, as usual, were most numerous, 11 having destroyed themselves, of whom 6 were Americans, 2 English, 2 Germans, and 1 Irishman. Most of these were young men of ages ranging between 18 and 26. There were 5 laborers, of whom 3 were Irish, 1 German, and 1 Scotch. Of 5 cigar makers, 3 were German, 1 Belgian, and 1 Cuban. Of 5 druggists or chemists, 2 were English, 1 French, 1 Swiss, and 1 German. Chloroform, prussic acid, morphine, and cutting the throat, were the means resorted to by these persons. There were 3 merchants, all Americans; and 3 tailors and 3 machinists, all Germans. These were the occupations mentioned most frequently. One prostitute, only 22 years old, ended her career by taking laudanum.

HOMICIDES.

The homicides for the year amounted to 65 against 45 in 1870, and 37 in 1869, the number having doubled within three years. Only one person, John Thomas Rosenville, expiated his crime upon the scaffold.

MORTALITY IN TENEMENT HOUSES.

The whole number of tenement houses in the City of New York in which deaths occurred during the year 1871, was eight thousand two hundred and twenty-four. The whole number of deaths in these houses was twelve thousand seven hundred and forty-four, distributed as follows:

1	death in	5,438	houses	Deaths	5,438
2	"	1,721	"	"	3,442
3	"	666	"	"	1,998
4	"	231	"	"	924
5	"	106	"	"	530
6	"	37	"	"	222
7	"	17	"	"	119
	"	3	"	"	24
9	"	4	"	"	36
11	"	1	"	"	11
		8,224			12,744

TABLE No. XXXI.

MORTALITY IN TENEMENT HOUSES, PUBLIC INSTITUTIONS, AND PRIVATE DWELLINGS,

WITHIN THE PAST FOUR YEARS.

MORTALITY.	1868.				1869.				1870.				1871.			
	First District.*	Sec'd District.*	Third District	Tota.	First District.*	Sec'd District.*	Third District.*	Total.	First District.*	Sec'd District.*	Third District.*	Total.	First District.*	Sec'd District.*	Third District.*	Total.
In tenement houses...........................	3,645	5,823	5,082	14,550	3,359	5,192	4,734	13,285	3,017	5,500	4,535	13,052	3,020	4,832	4,892	12,741
In public institutions................................	338	91	3,885	4,314	311	90	3,664	4,065	753	111	4,081	4,945	1,041	152	3,996	5,189
In private dwellings....................................	1,778	986	3,261	6,025	2,370	1,499	3,948	7,817	2,426	1,632	5,120	9,178	2,327	1,889	4,827	9,043
Total mortality........	5,761	6,900	12,228	24,889	6,040	6,781	12,346	25,167	6,196	7,243	13,736	27,175	6,388	6,873	13.715	26.976
Percentage of Deaths in tenement Houses..........	63.27	84.39	41.56	58.46	55.61	76.57	38.34	52.79	48.69	75.93	33.01	48.03	47.28	70.30	35.67	47.24
Percentage of Deaths in public institutions..........	5.86	1.32	31.77	17.33	514	132	29.68	16.15	12.15	1.53	29.71	18.19	16.29	2.21	29.13	19.24
Percentage of Deaths in private dwellings..........	30.86	14.29	26.67	24.21	39.25	22.11	31.98	31.06	39.15	22.53	37.27	33.77	36.43	27.49	35.20	33.52
Percentage of Deaths in tenement houses and public institutions on total mortality..................	69.14	85.71	73.33	75.79	60.76	77.89	68.02	68.94	60.84	77.46	62.72	66.22	63.57	72.51	64.80	66.48
Percentage of Deaths in tenement houses and public institutions on total population.................	2.13	2.53	2.90	2.60	1.96	2.26	2.75	2.39	1.72	2.00	1.93	1.90	1.86	1.79	2.00	1.90
Percentage of total mortality on total population....	3.08	2.96	4.00	3.43	3.22	2.91	4.04	3.46	2.84	2.59	3.08	2.88	2.93	2.46	3.08	2.86

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* The first District comprises the First, Second, Third, Fourth, Fifth, Sixth, Eighth, Ninth, Fourteenth, and Fifteenth Wards; The Second District comprises the Seventh Tenth, Eleventh, Thirteenth, and Seventeenth Wards; The Third District comprises the Twelfth, Sixteenth, Eighteenth, Nineteenth, Twentieth, Twenty-first and Twenty-second Wards.

In 1870, thirteen thousand and fifty-two deaths took place in eight thousand five hundred and nine houses of this kind. There appeared a gain therefore in the past year of 308 lives throughout the tenement houses, and there were 285 less of such habitations visited by death. This apparent gain, however, was more than compensated for by the mortality in public institutions which must also be taken into consideration in estimating the death rate among the tenement house population who contribute the principal proportion of their patients. There was but a slight difference between 1870 and 1871 in this respect, hospitals and tenement houses together having furnished 66·22 per cent. of all deaths in the former year, and 66·48 per cent. in the latter. An increase of 179 in the mortality of the Foundling Hospital, and the deaths of so many people at the Small Pox Hospital (a large number of whom had been removed from tenement houses) affords the explanation of the increase in 1871. Moreover, 121 of the deaths from Small Pox actually occurred in tenement houses. It is evident, therefore, that those diseases more directly dependent upon and affected by the hygienic condition of such dwellings and their surroundings were less rife than usual among their inhabitants during the past year. This was especially noticeable in the second tenement house district, including the 7th, 10th, 11th, 13th, and 17th wards, where the actual gain to human life in tenement houses during 1871, as compared with 1870, was represented by a decrease of 12 per cent. in the mortality of their inhabitants, although this district contains 37 per cent. of all the tenement houses in the city, with nearly 200,000 inmates, or 41 per cent. of the whole city tenement house population. The total population of the second district, according to the last census, was 280,000, and its area embraces but 1.47 square miles.

TABLE No. XXXII.

TABLE SHOWING THE MORTALITY BY THE PRINCIPAL ZYMOTIC DISEASES IN HOSPITALS, TENEMENT HOUSES AND OTHER DWELLINGS, DURING THE YEAR 1871, IN NEW YORK CITY.

DISEASES.	Alms House.	Bellevue Hosp.	Centre Street Hospital.	Charity Hosp.	Colored Home Hospital.	Epileptic & Paralytic Hosp.	Fever Hospital.	Hospital for Incurables.	Idiots' Asylum.	Infants' Hospital, R. I.	In Public Ambulance.	Lunatic Asylum	Penitentiary.	Randall's Isl'd Hospital.	Small-pox Hos.	Soldiers' Retreat	Castle Garden.	Ward's Island Hospitals.	Bloom'gd'le Asylum for Insane.	Deaf & Dumb Institute.	Female Orphan Asylum.	Five Points Mission House.	Foundling Hos.	German Hosp.
Small-pox	..	2	..	2	..	..	..	..	..	1	..	..	..	..	533	..	..	..	..	..	..	..	..	..
Measles	..	..	..	..	1	..	1	..	..	13	..	..	..	1	1	..	..	17	..	1	..	..	..	..
Scarlatina	..	..	..	..	..	..	4	..	..	..	..	..	..	..	2	..	..	13	..	..	..	..	.	..
Diphtheria	..	2	..	..	..	..	..	..	..	4	..	..	..	..	..	..	1	1	..	..	..	..	..	1
Croup	..	1	..	1	..	..	..	..	..	5	..	..	..	..	1	..	..	.	..	..	1	..	..	..
Whooping-cough	..	..	..	..	..	..	..	..	..	10	..	..	..	4	..	..	..	1	..	..	..	1	5	..
Typhus Fever	..	..	..	1	..	..	9	..	..	..	..	..	..	..	1	..	..	12	..	..	..	..	..	..
Typhoid Fever	..	6	..	5	..	..	7	..	..	..	1	..	..	..	..	..	..	19	..	1	..	..	..	9
Remittent Fever	..	3	..	6	..	..	..	.	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
Intermittent Fever	..	3	..	1	..	.	..	..	..	..	..	..	..	..	.	..	.	2	..	..	..	..	..	..
Puerperal Fever	..	7	..	..	..	..	..	.	..	..	..	..	..	..	..	..	..	4	..	..	..	.	..	..
Erysipelas	..	3	..	3	1	1	..	..	..	1	..	2	..	1	.	..	1	2	..	..	..	..	6	..
Diarrhœal Diseases	16	22	2	35	1	..	..	1	1	93	..	16	1	3	..	1	3	50	3	..	..	1	414	..
Intemperance	..	3	1	..	.	..	..	..	..	..	..	.	..	.	..	..	..	..	..	..	..	..	..	..
Delirium Tremens	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

TABLE No. XXXII.—*Continued.*

TABLE SHOWING THE MORTALITY BY THE PRINCIPAL ZYMOTIC DISEASES IN HOSPITALS, TENEMENT HOUSES AND OTHER DWELLINGS, DURING THE YEAR 1871, IN NEW YORK CITY.

DISEASES.	Home for Aged & Indigent Women	Home for the Friendless.	House of Good Shepherd.	House of Mercy.	H'use of the Little Sis'rs of the Poor	Jefferson Market Prison.	Lying-in Asylum	Mt. Sinai Hosp.	Nurs'y & Child's Hospital.	N. York Juvenile Asylum.	Roosevelt Hosp.	Samaritan Home for Aged.	St. Francis' Hos.	St. Joseph's Orphan Asylum.	St. Luke's Hosp.	St. Vincent's Hos.	Total in Public Institutions.	TENEMENT HOUSES.			Total in Tenement Houses.	Private Residences, Boarding Houses, &c.	Grand Total.
																		First Dist.	Sec'd Dist.	Third Dist.			
Small-pox	..	..	..	..	..	..	..	..	..	..	..	..	..	.	..	..	538	14	43	64	121	146	805
Measles	..	3	..	..	..	..	..	..	7	1	..	..	..	.	..	..	46	53	61	99	213	150	409
Scarlatina	..	..	..	..	..	..	..	..	1	..	..	..	1	2	..	..	23	81	160	204	445	323	791
Diphtheria	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	11	44	58	48	150	77	238
Croup	..	.	..	..	..	..	..	..	4	..	..	..	..	1	..	..	14	80	105	118	298	154	466
Whooping-cough	..	..	..	..	..	..	..	..	2	..	..	..	..	2	..	..	25	43	80	68	191	249	465
Typhus Fever	..	..	1	..	..	..	..	..	..	..	..	..	3	..	..	..	27	2	14	2	18	20	65
Typhoid Fever	..	..	..	..	..	..	..	..	..	..	..	1	9	..	3	5	66	24	31	40	95	78	239
Remittent Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	11	11	24	39	74	80	165
Intermittent Fever	..	..	..	.	2	..	..	..	..	..	..	..	..	..	..	..	8	5	4	9	18	84	110
Puerperal Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	11	8	22	13	43	36	80
Erysipelas	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	21	17	29	26	72	52	145
Diarrhœal Diseases	..	6	..	1	..	..	1	1	35	..	1	..	2	..	..	5	714	361	734	660	1755	1184	3653
Intemperance	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	15	7	11	33	82	119
Delirium Tremens	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	4	7	6	7	20	77	101

TABLE No. XXXIII.

ABSTRACT SHOWING THE DISTRIBUTION OF MORTALITY

IN TENEMENT HOUSES IN WHICH THREE OR MORE DEATHS OCCURRED IN THE YEAR 1871.

(The small numeral over any particular house represents the number of deaths which occurred in that house in 1870.)

STREET.	Houses in which Three Deaths occurred.	Houses in which Four Deaths occurred.	Houses in which Five Deaths occurred.	Houses in which Six or more Deaths occurred. (Numerals in parenthesis showing the actual number of deaths in the respective houses.)
Albany	19^4.	....	....	....
Allen	24, 46, 52, 106, 197.	29, 98^3, 129^3, 195.	....	81 (6).
Attorney	81, 83^4, 66, 156, 157^5, 164.	....	....	....
Avenue A	29^3, 45, 50, 186. 198, 251.	89, 288.	61.	....
Avenue B	27, 40, 80, 177. 180, 202, 224. 246, 276.	....	260.	....
Avenue C	77, 199, 202.	....	205.	....
Avenue D	116.	....	....	....
Batavia	....	....	5.	....
Baxter	17^6, 18, 86^3, 88, 85, 93, 115, 120.	40^1, 69, 81, 92.	20^3. 31^5, 119.	14^4 (9), 88^6 (6).
Bayard	98, 104.	....	51.	....
Broome	74, 77, 105, 164, 220^8, 315.	88.	....	....
Canal	65.	....	....	....
Cannon	135.	97.	....	....
Carlisle	5^5.	....	....	....
Carmine	....	77.	....	....
Catharine	....	....	....	90 (6).
Cedar	102.	....	....	....
Centre	46, 106.	....	....	....
Cherry	14, 32, 144, 148. 362^4, 400, 430.	26, 36^6, 59, 140. 222, 242, 406.	141^6.	88^3 (6).
Christopher	....	98.	....	....
Chrystie	15, 82^3, 128, 182, 143, 174, 189^4. 220.	48^3, 163.	....	....
City Hall place	....	17, 19^3, 24.	....	15^6 (8).
Clarke	....	22.	....	....
Clinton	22, 24, 42^6, 128.	16, 28, 57, 84, 87.	171, 183.	....
Columbia	75, 96.	....	....	....
Crosby	47, 59.	81.	....	88 (6).
Delancey	25, 46^6, 109, 240.	126.	210.	....
Division	78, 98, 244^6 250^3.	....	....	....
Downing	....	....	....	161^4 (7).
Duane	....	168.	....	141 (7).
East Broadway	33.	....	187.	....
East Houston	70, 121, 145, 146. 217, 341.	123, 125, 130, 177.	....	....
East 4th	118, 170, 196, 207^4, 209, 231, 232, 279.	113, 145, 251.	122^3, 158.	144 (6), 178 (7).

TABLE No. XXXIII—*Continued.*

STREET.	Houses in which Three Deaths occurred.	Houses in which Four Deaths occurred.	Houses in which Five deaths occurred.	Houses in which Six or more Deaths occurred. (Numerals in parenthesis showing the actual number of deaths in the respective houses.)
East 9th......	318, 411, 433, 436. 445, 610, 630, 634^3, 701, 734. 702, 719, 725.	784.	439, 632^3.	....
East 10th.....	240, 263, 356^3, 360^3.	....	....	....
East 11th.....	337, 338. 404, 439, 507, 617, 630^3, 636, 638, 644, 645.	331, 408, 509, 616, 619, 682.	324, 833^6, 340, 426.	420^3 (^{7}), 508 (^{7}).
East 12th.....	316, 423, 500, 508, 523, 530, 537, 639, 718.	511^5.	515^3.	411 (^{6}), 701 (^{6}).
East 13th.....	439, 442^4, 507^3, 522, 523, 608, 605, 616, 646^3.	422, 511.	435, 443^4, 506.	....
East 14th.....	404^4, 417^5, 424, 508^6, 516.	406, 441.	409^5, 437^3.	431^6 (^{7}).
East 15th.....	406, 420, 429, 431, 433^3, 435^3, 436, 511.	....	434.	....
East 16th.....	336, 341, 414, 504, 657.	404, 419, 600.	510^3, 516^5, 605.	518 (^{7}).
East 17th.....	421, 435^5, 620.	417, 431.	423.	405 (^{8}), 425 (^{6}).
East 18th.....	421.	425.	415.	....
East 19th.....	412, 418, 420, 444	421, 423.	407.	....
East 21st.....	319, 344, 404^6.	....	....	....
East 22d......	239^4.	223^5, 887^5.	....	....
East 24th.....	....	805^5.	....	....
East 25th.....	300, 317, 318.	....	....	....
East 26th.....	145, 217.	....	....	....
East 28th.....	325.	....	....	245 (^{6}).
East 29th...	227, 818.	....	....	....
East 31st.....	304.	333, 853.	....	....
East 32d.....	330, 337, 838, 340.	....	....	....
East 33d......	333.	....	....	....
East 34th.....	314.	....	....	....
East 35th...	221, 306, 330.	....	....	....
East 36th.....	314, 322. 324.	....	....	....
East 37th.....	208.	....	815.	....
East 38th....	219.	....	....	....
East 39th....	837.	....	....	....
East 42d......	222.	....	....	....
East 45th.....	236.	231.	....	....
East 46th.....	235, 829.	837, 840.	807.	237 (^{6}).
East 47th.....	....	204. 228.	240^3, 380.	....
East 48th...	836, 400, 402.	....	....	....
East 49th.....	....	....	307.	....
East 53d......	159.	....	....	402 (^{6}).
East 55th......	814.	....	....	....
East 56th......	166.	....	....	....
East 59th.....	215.	....	425.	....

TABLE No. XXXIII—*Continued.*

STREET.	Houses in which Three Deaths occurred.	Houses in which Four Deaths occurred.	Houses in which Five Deaths occurred.	Houses in which Six or more Deaths occurred. (Numerals in parenthesis showing the actual number of deaths in the respective houses.)
East 60th......	308, 349^4.	310.	....	....
East 66th......	318, 320.	....	....	....
East 74th.....	219.	....	....	....
East 119th ...	215.	....	....	....
East 121st.....	226.	....	....	....
East 8th.......	108, 118, 119, 122. 301, 308, 305, 310, 833, 373, 376, 400.	824.	....	....
Eighth avenue.	444, 838^3	....	....	....
Eldridge......	18, 37, 51^4, 72, 126, 144.	76, 105^3, 151.	47, 124.	....
Eleventh ave..	568.	581.	....	....
Elizabeth......	8^6, 114, 224, 226.	282, 233^3, 249, 281..	172.	....
Elm	48, 208.	....	....	....
Essex.........	21, 37, 105, 115, 138, 148^6.	10, 46.	....	....
Fifth	214, 219, 410, 414, 431, 433, 513^3. 517, 520, 527^4, 640.	329, 406, 408, 416, 421, 516, 518, 519, 531, 644^5,	521^6.	317 (^{7}), 415 (^{6}), 506 (^{6}), 515^6 (^{7}), 525 (^{6}).
First..........	53^3, 125.	92.	....	....
First avenue...	73, 87, 154, 181, 194, 228, 334, 420^7, 442^4, 519, 525, 529, 549, 601, 827^4, 833, 834^3, 952^4.	836, 1078, 1098^4.	96.	881 (^{6}).
Forsyth.......	38, 44, 46^3 67, 127, 150, 153. 203.	16^6, 40^4, 50, 57, 186, 208.	13^5, 65.	....
Frankfort.....	25.	....	....	37^6 (^{6}).
Franklin......	5.	....	194.	....
Gansevoort	10.	28.	....	....
Goerck........	151.	....	....	....
Grand	40, 431, 577.	....	....	....
Greene........	94, 102, 211^3	....	....	....
Greenwich	101^4 181, 345^3. 356, 400, 467, 500.	4, 370. 535, 607,	38^3 67.	....
Hague........	8^3.	....	....	....
Hamilton	40.	10. 16^4.	....	....
Harrison.......	7.	....	....	....
Henry	42, 69, 92^6, 94, 112, 238^3, 330^3	239.	80, 826.	....
Hester........	3^3, 171.	7^4.	....	....
Hudson......	76, 891.	....	....	....
Jackson.......	4, 16, 81.	32^4, 84^7.	....	....
James	24^5, 61^5, 102.	9^3, 26.	45.	....
Jefferson......	87^6.	....	....	....
King..........	74^3.	72, 73.	....	....
Laurens.......	111. 221,	159, 191.	....	....

TABLE No. XXXIII—*Continued.*

STREET.	Houses in which Three Deaths occurred.	Houses in which Four Deaths occurred.	Houses in which Five Deaths occurred.	Houses in which Six or more Deaths occurred. (Numerals in parenthesis showing the actual number of deaths in the respective houses.)
Leonard	10, 134, 153^3	148.		
Leroy	62.			
Lewis	37, 51, 78^3, 92. 187.	163^3.		
Little Twelfth	12.			
Ludlow	163^3, 167^3.	172.		
Macdougal	8.			
Madison	99, 196, 237,^{6}. 347, 349, 363^4.	350, 355.	28^5, 348.	32$^{(6)}$.
Marion	25^3.			
Monroe	17^3, 39^3, 101, 242^3, 318.	27, 66, 237.	33, 260, 311^6.	
Morris	24.	6.		
Mott	17, 68, 118, 115, 126^3, 218, 231, 308.	156^4, 157^3, 195^3. 220^4, 297.	65^3, 66^4, 109, 217, 250^6,	196$^{(6)}$.
Mulberry	25, 31, 33^4, 35^3, 58, 59^5, 72, 79, 89, 91, 116. 118, 140, 214, 235.	24^4, 32, 47, 76, 87, 113^7 231^3, 233, 248.	172.	5$^{(6)}$, 9$^{(11)}$^{6}, 51$^{(7)}$^{4}, 55$^{(6)}$, 78$^{(8)}$, 166$^{(9)}$^{4}.
New Bowery	45.			
Ninth avenue	489, 577, 750^3, 784	567.		
Norfolk	12, 26, 57, 90, 91, 101, 144.	5^4.		154$^{(6)}$.
Oak	30, 81^4.	24.		
Oliver	54^3, 93.	67.		48$^{(6)}$.
Orchard	196.	24^3 57, 60, 156.	106.	158$^{(9)}$.
Park		88^5.	37, 48.	39$^{(7)}$^{3}, 47$^{(6)}$^{3}.
Pearl	326, 478.	322, 472.		
Pitt	189.	62, 185^7,		128$^{(6)}$.
Prince	156^3.			
Rector		26.		
Ridge	58, 77, 79^6, 118^3, 115^3.	30^3, 60^3, 88^3 112^5,	117^3	
Rivington	128, 152, 156, 182, 187, 261, 345.	158, 263^3.	157, 194^6, 316,	246$^{(6)}$.
Roosevelt		18^4, 27, 31, 54.		10$^{(6)}$^{7}.
Rose	15.	58, 55^4.		25$^{(7)}$^{3}.
Rutgers	60.			
Scammel	22^3.			
Second	164, 198, 233, 240. 241, 250.	192, 228^5, 287	245.	
Second avenue	26^3, 474, 511, 572. 610, 1086, 1128, 1363, 1485.	864, 866, 1535.	570, 867, 873.	396$^{(7)}$, 409$^{(6)}$^{3}, 862$^{(7)}$.
Seventh avenue	350.		331.	
Seventh	142, 184, 187, 189	82.		
Sheriff	80, 82, 88, 114.		85.	
Sixth	337, 404^4, 428 433, 518, 752, 816	412^4, 418, 434,^{4}, 517, 724.		514$^{(7)}$.
Sixth avenue		85, 87.		
Spring	251.		187^5.	54$^{(9)}$^{4}.

TABLE No. XXXIII—*Continued.*

STREET.	Houses in which Three Deaths occurred.	Houses in which Four Deaths occurred.	Houses in which Five Deaths occurred.	Houses in which Six or more Deaths occurred. (Numerals in parenthesis showing the actual number of deaths in the respective Houses.)
Stanton	61, 161^3, 175, 244. 260.	93.		
Suffolk	18, 172.			
Sullivan	47. 113^3. 148.	218.	114^4.	
Tenth avenue	126, 265, 282 415, 417. 517, 552. 593. 603.	274.	49.	
Third	83, 86, 108, 111^3, 114^3, 115^4, 139, 156. 160^4, 185, 190, 215, 217 220, 230, 242, 245^3 247, 276.	121, 129^3, 224^3.	212, 222^3, 243.	117(7), 119(6) 162(6).
Third avenue	290, 382, 538, 623^3, 752, 1055, 1057^4, 1215. 1294, 1384.	747, 805, 1112.		
Thomas		40.		
Thompson	74, 111, 142, 147.		12^4.	$57(6)^3$.
Vandam	70.			
Vandewater		9^3, 13.		
Walker		101.		
Washington	3, 15^5, 27, 59, 107^4 125, 139^3, 535.	26, 36, 88^4, 102^3. 757^3.	10^6, 85^4.	$28(8)^3$.
Water	614, 636, 652.			
Watts		48.		
Weehawken	11.			
West	19.	16.		21(6).
West Broadway			60^4.	
" Houston	226.			
" 4th	323^3.			
" 10th		240.		
" 13th	430.			
" 16th	250, 508.	345, 408.	454.	
" 17th	250, 329, 428, 435,			
" 18th	220, 222, 224, 228, 348.	226.	154^4, $158,^4$ 230^3.	
" 19th	154. 144.		442^3.	
" 20th	210.			
" 24th	235, 404.		123.	
" 25th	201, 317, 354, 358, 439.	352.		
" 26th	331, 401, 411, 442, 443, 464^4, 511, 555.	417.		
" 27th	159^7, 249, 449, 538.	234.	214.	$447(6)^3$.
" 28th	150, 200. 228, 230 456^3	219, 446.	442.	
" 29th	225, 241, 501, 516,			
" 30th	218, 520.			
" 31st	441.			

TABLE No. XXXIII—*Continued.*

STREET.	Houses in which Three Deaths occurred.	Houses in which Four Deaths occurred.	Houses in which Five Deaths occurred.	Houses in which Six or more Deaths occurred. (Numerals in parenthesis showing the actual number of Deaths in the respective houses.)
West 32d	202, 441.	446.	450^{3}.	.....
" 33d	241.	.....	142.	.....
" 35th	251.	365.	.....	.....
" 36th	343, 345, 412, 555.	.....	445^{3}.	....
" 38th	306, 352, 404.	402.	.....	.....
" 39th	314^{4}, 316, 425 427, 483, 435, 526,	335, 439^{3}.	.....	510(^{6}).
" 40th	114, 445, 448.	424.	.....	.....
" 41st	248, 250, 317, 342	341, 548.	407.	423(^{6}).
" 42d	436.	456, 551^{3}.	428.	.....
" 43d	531.	.....	545.	.....
" 44th	341, 511.	.....	.....	.....
" 45th	450.	607.	.....	.....
" 46th	111, 554, 620, 621	.....	618.	.....
" 47th	261.	.....	.....	.....
" 49th	124^{3}.	.....	.....	.....
" 50th	141^{4}, 143, 438.	352.	.....	.....
" 51st	522	.....	.....	.....
" 52d	354, 371.	.....	.....	.....
" 53d	414.	.....	508.	.....
" 54th	.....	.....	150.	.....
" 59th	.....	611.	.....	.....
William	.....	221^{4}.	.....	.....
Willett	37, 39, 58, 62, 70, 81, 82, 126.	90^{4}, 92, 121^{4}.	.....	68(^{6})^{3}, 119(^{7})^{6}.
Wooster	.....	.....	175.	.....
Worth	128.	.....	8^{7}.	.....
Total Number of Houses	666.	231.	106.	62.
Total Number of Deaths in these Houses.	1998.	924.	530.	412.

An abstract exhibiting the street distribution of tenement house mortality is herewith presented, and in it are distinguished those houses in which three or more deaths took place successively during each of the years 1870 and 1871. These figures are very instructive as illustrating the recurrence of numerous deaths year after year in particular houses. For example, out of 666 houses, in each of which 3 deaths occurred during the past year, there were 100 in each of which from 3 to 7 (with an average of 3.84) deaths had occurred in the previous year. Out of 231 houses in each of which 4 deaths occurred during the past year, there were 56 in each of which from 3 to 8 (with an average of

4.18) deaths had occurred in the previous year. Out of 106 houses in each of which 5 deaths occurred during the past year, there were 38 in each of which from 3 to 7 (with an average of 4.21) deaths had occurred in the previous year. Out of 37 houses in each of which 6 deaths occurred during the past year, there were 10 in each of which from 3 to 7 (with an average of 4.3) deaths had occurred in the previous year. Out of 17 houses in each of which 7 deaths occurred during the past year, there were 8 in each of which from 3 to 6 (with an average of 4.37) deaths had occurred in the previous year. And out of 8 houses in each of which from 8 to 11 deaths occurred during the past year, there were 5 in each of which from 3 to 6 (with an average of 4.2) deaths had occurred in the previous year. Altogether out of 1,065 tenement houses in each of which 3 or more deaths occurred in 1871 there were 217, in each of which 3 or more deaths had occurred in 1870.

This annual recurrence of several deaths in particular tenement houses is a fact proven by the experience of successive years, and such figures as the above may be termed sanitary indices which direct our attention unerringly to evil local conditions requiring investigation and correction.

GENERAL MORTALITY.

During 1871 there died in this city 10,701 children less than 2 years old, or 39.6 per cent. of the total mortality, the percentage in 1870 having been 40.8 per cent. We present herewith a table showing the distribution of infant mortality in the past year, from which it appears that there occurred 8,042 deaths of infants one year old and under, of whom 1,083 or 13.4 per cent. died in hospitals. The mortality of children less than five years of age amounted to 12,971 or 48 per cent. of the total, a slight gain upon the previous year.

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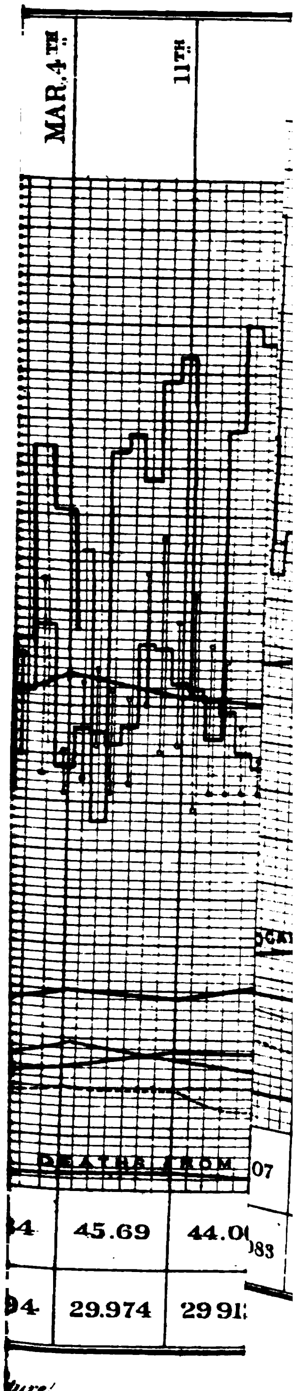

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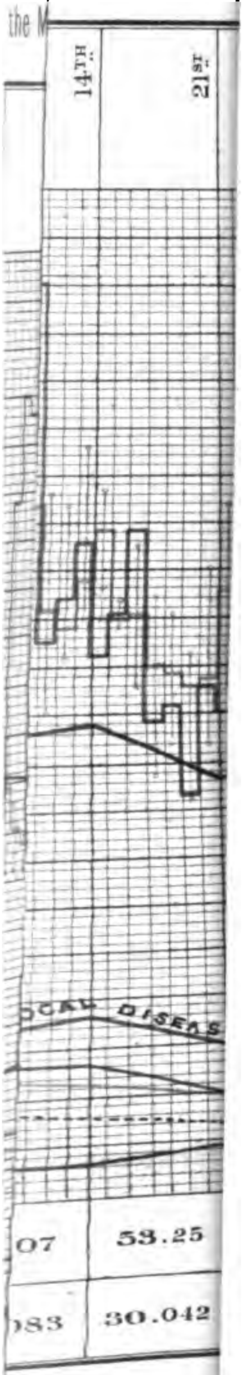

TABLE No. XXXIV.

MORTALITY OF CHILDREN, ONE YEAR OLD AND LESS,

In the Principal Infants' Hospitals, and in the Whole City.

MONTH.	1 Month Old and Under.						From 1 to 2 Months.						From 2 to 3 Months.						From 3 to 4 Months.						From 4 to 5 Months.						From 5 to 6 Months.						TOTAL BY MONTHS.
	Infants' Hospital, Randall's Island.	Ward's Island Hospital.	Nursery and Child's Hospital.	Foundling Hospital.	Rest of City.	Whole City.	Infants' Hospital, Randall's Island.	Ward's Island Hospital.	Nursery and Child's Hospital.	Foundling Hospital.	Rest of City.	Whole City.	Infants' Hospital, Randall's Island.	Ward's Island Hospital.	Nursery and Child's Hospital.	Foundling Hospital.	Rest of City.	Whole City.	Infants' Hospital, Randall's Island.	Ward's Island Hospital.	Nursery and Child's Hospital.	Foundling Hospital.	Rest of City.	Whole City.	Infants' Hospital, Randall's Island.	Ward's Island Hospital.	Nursery and Child's Hospital.	Foundling Hospital.	Rest of City.	Whole City.	Infants' Hospital, Randall's Island.	Ward's Island Hospital.	Nursery and Child's Hospital.	Foundling Hospital.	Rest of City.	Whole City.	
January	2	1	3	21	172	199	4	...	1	11	50	66	2	1	...	8	41	52	...	1	1	1	27	30	4	1	...	1	28	34	2	2	1	...	25	30	411
February	2	...	2	13	143	160	7	1	2	9	31	50	3	...	...	6	32	41	1	...	...	3	21	25	2	...	...	1	27	30	1	...	1	...	25	27	433
March	2	...	...	25	161	188	5	...	...	16	45	66	2	1	...	6	39	48	5	...	...	4	34	43	...	...	...	4	42	46	...	...	...	1	38	39	430
April	6	1	4	27	132	170	4	2	1	15	31	53	5	...	2	3	37	47	5	...	1	4	35	45	1	...	...	3	32	36	2	...	...	...	30	32	383
May	2	5	1	30	167	205	...	...	1	19	50	70	...	...	1	19	31	51	5	...	4	5	33	47	4	...	1	5	35	45	2	...	...	2	37	41	459
June	3	1	1	28	167	200	3	...	1	14	60	78	1	1	...	7	55	64	1	...	...	8	58	67	1	...	...	2	61	64	...	1	2	4	56	63	536
July	3	1	2	42	204	252	1	5	1	14	113	134	1	2	1	12	104	120	4	...	1	10	115	130	...	...	1	3	105	109	2	...	1	3	96	102	847
August	3	5	...	32	212	252	4	3	2	6	86	101	5	2	1	7	57	72	5	...	1	6	50	62	...	3	...	3	50	56	2	2	...	5	48	57	600
September	...	1	...	28	209	238	1	2	...	14	97	114	2	1	...	6	63	72	...	1	...	3	47	51	1	...	...	2	23	26	2	...	2	3	34	41	542
October	1	2	2	18	140	153	1	...	...	12	69	82	1	...	1	7	45	54	1	1	...	5	26	33	...	...	...	...	19	19	1	...	...	...	19	20	371
November	...	1	1	21	142	165	...	2	3	9	53	67	...	...	...	5	27	32	1	...	1	1	29	32	...	...	...	1	20	21	...	1	1	...	15	17	334
December	1	2	1	20	143	167	...	2	1	5	56	64	2	...	...	6	40	48	1	1	1	2	33	38	...	...	...	1	31	32	...	...	1	...	15	16	365
Grand Total	25	20	17	305	1992	2359	30	17	13	144	741	945	24	8	6	92	571	701	29	4	10	52	508	603	13	4	2	26	473	518	14	6	9	18	438	485	5611

TABLE No. XXXIV—*Continued.*

MONTH.	From 6 to 7 Months.						From 7 to 8 Months.						From 8 to 9 Months.						From 9 to 10 Months.						From 10 to 11 Months.						From 11 to 12 Months. (12 Mos. Inclusive.)						TOTAL BY MONTHS.
	Infants' Hospital, Randall's Island.	Ward's Island Hospital.	Nursery and Child's Hospital.	Foundling Hospital.	Rest of City.	Whole City.	Infants' Hospital, Randall's Island.	Ward's Island Hospital.	Nursery and Child's Hospital.	Foundling Hospital.	Rest of City.	Whole City.	Infants' Hospital, Randall's Island.	Ward's Island Hospital.	Nursery and Child's Hospital.	Foundling Hospital.	Rest of City.	Whole City.	Infants' Hospital, Randall's Island.	Ward's Island Hospital.	Nursery and Child's Hospital.	Foundling Hospital.	Rest of City.	Whole City.	Infants' Hospital, Randall's Island.	Ward's Island Hospital.	Nursery and Child's Hospital.	Foundling Hospital.	Rest of City.	Whole City.	Infants' Hospital, Randall's Island.	Ward's Island Hospital.	Nursery and Child's Hospital.	Foundling Hospital.	Rest of City.	Whole City.	
January	...	...	...	...	25	25	1	...	...	1	20	22	1	...	...	1	16	18	...	1	1	1	19	22	...	...	...	1	27	28	...	...	...	...	15	15	130
February	...	...	...	1	32	33	1	1	2	...	24	28	1	...	...	...	19	20	1	...	...	...	13	14	...	...	...	1	15	16	1	...	...	...	10	11	122
March	1	...	...	...	30	31	1	1	...	...	27	29	...	2	...	2	22	26	2	...	1	1	25	28	2	...	...	...	12	14	1	1	...	1	27	30	158
April	4	...	...	1	30	35	...	...	1	...	24	25	1	...	1	...	23	25	...	...	...	...	15	15	1	...	2	2	23	28	...	...	...	...	17	17	145
May	4	1	...	2	29	36	2	...	...	1	26	29	...	...	...	1	34	35	...	...	...	2	22	24	...	...	...	1	16	17	...	...	...	...	19	19	160
June	...	...	5	3	47	55	...	...	1	...	53	54	...	1	3	1	45	50	2	...	1	1	49	53	...	...	...	...	36	36	2	1	...	1	19	23	271
July	2	...	...	3	81	86	3	1	1	1	95	101	2	...	2	2	72	78	2	...	...	2	91	95	1	...	1	...	47	49	1	1	1	3	55	61	470
August	3	1	1	2	61	68	3	1	...	3	66	73	2	2	...	1	64	69	2	1	1	3	58	65	1	...	...	...	41	42	1	3	...	...	58	62	379
September	1	...	1	3	29	34	1	...	...	...	32	33	1	...	1	2	32	36	...	...	1	...	54	55	...	...	1	1	29	31	...	2	...	...	47	49	238
October	...	...	1	1	27	29	1	1	...	...	26	28	1	...	...	3	22	26	1	1	...	...	33	35	...	...	...	...	18	18	1	2	1	1	9	14	150
November	...	1	...	1	14	16	1	1	1	1	14	18	...	...	...	1	17	18	...	...	...	1	13	14	...	...	...	...	15	15	1	2	...	...	17	20	101
December	2	...	...	...	15	17	...	...	...	2	10	12	...	2	...	...	21	23	...	...	...	...	12	12	1	...	...	...	12	13	...	5	...	1	24	30	107
GRAND TOTAL	17	3	8	17	420	465	14	6	6	9	417	452	9	7	7	14	387	424	9	3	5	11	404	432	6	...	4	6	291	307	8	17	2	7	317	351	2431

Total Deaths of Children, 1 Year Old and Less, in above Hospitals, 1,083.

1,296 persons of 70 years old and upward were cut off during the year. The following statement exhibits the mortality among such persons for the past 6 years:

Year.	Deaths of persons 70 years old and upwards.	Percentage of deaths upon total mortality.
1871	1,296	4.8
1870	1,370	5.0
1869	1,177	4.6
1868	1,112	4.4
1867	981	4.2
1866	1,220	4.5

Our final table covers a period of three years back and shows the percentage of mortality upon population among the principal foreign elements which constitute our community. It contains several interesting facts derived from an analy-

TABLE No. XXXV.

FOREIGN AND NATIVE MORTALITY IN NEW YORK,

DURING 1869, 1870, AND 1871.

NATIVITY.	Population. (Census of 1870.)	Deaths in Three Years.	Mean Annual Mortality.	Mean Annual Percentage of Deaths upon Population.
Austria	4224	202	67	1.59
Belgium	325	22	7	2.16
British America	4419	285	95	2.15
China	115	18	6	5.22
Denmark	682	67	22	3.22
England	24442	1800	600	2.41
France	8265	463	154	1.86
Germany	151216	7821	2607	1.72
Holland	1287	122	41	3 81
Ireland	201999	14827	4942	2.44
Italy	2794	151	50	1.79
Norway	372	41	14	3.76
Poland	2393	77	26	1.09
Russia	1151	54	18	1.56
Scotland	7562	586	195	2.58
Spain	453	27	9	1.99
Sweden	1558	244	81	5.20
Switzerland	2178	176	59	2.71
Wales	584	54	18	3.08
West Indies	489	157	52	10.63
* Other Foreign Countries, and Unknown	2636	636	212	8.04
Total Foreign	419094	27930	9310	2.22
† Total Native	523198	51488	17163	3.28
GRAND TOTAL	942292	79418	26473	2.71

* So large a proportion of "Unknown" are undoubtedly Foreign, as to justify classing the mall as such.

† The percentage of Deaths in the Native was largely in excess of that in the Foreign population, on account of the fact, that nearly 50 per cent. of the total mortality occurred among children less than five years old, who were almost exclusively native born, although mainly of foreign parentage.

sis of some 80,000 deaths. The two most numerous foreign nationalities, viz.: the Irish and Germans, differ largely in their relative mortality, that of the former amounting to 2.44 per cent., and that of the latter to 1.72. We may compare these figures with the death rates of Dublin and Berlin, the representative cities of the respective races. That of Dublin, in 1871, was equivalent to 26 deaths in each thousand inhabitants, or 1.6 more than among the Irish population of New York. The normal death rate of Berlin, during 1871, was disturbed by conditions incident to the great war. In each of the two previous years however, it reached about 30 deaths in the thousand inhabitants, or 13 more than among the German population of this city. Thus it follows that whether from local, moral, or physical influences, a much greater improvement is manifested by the German than the Irish race after emigrating hither.

Natives of the West Indies suffered to a greater extent than any others—their annual percentage of mortality in New York rising to 10.63. The Chinese and Swedes come next with 5.22 and 5.20 respectively. The Norwegians, Hollanders, Danes, and Welsh follow in the order named—their mortality ranging between 3 and 4 per cent. The Swiss, Scotch, Irish, English, Belgians, and British Americans vary between 2 and 3 per cent. The lowest percentage, 1.09, is given by natives of Poland.

Very respectfully,

Your ob'd't serv't,

CHAS. P. RUSSEL, M. D.,

Register of Records.

The subjoined table exhibits the relative mortality by Phthisis Pulmonalis among persons engaged in various occupations in this city. The three years 1869, 1870 and 1871 are selected on account of their extending over a period equally preceding and subsequent to the time of the last United States census, and therefore by compensation affording a fair average. The list embraces only those callings enumerated in the census returns which correspond with those mentioned in the statistics of this Bureau for the years specified.

TABLE SHOWING THE INFLUENCE of VARIOUS OCCUPATIONS UPON PHTHISIS PULMONALIS IN NEW YORK CITY.

Occupation.	No. of Persons engaged in (Census 1870).	Average No. of Deaths annually by Consumpti'n in 1869, 1870 and 1871.	Deaths by Consump'n in each 1000 persons.
Laborers (including Quarrymen,, Agricultural Laborers and Porters)	28,700	329.3	11.5
Coopers	1,606	13.6	8.5
Machinists (including Blacksmiths and Metal-workers)	11,178	92.3	8.2
Lawyers	1,283	10.0	7.8
Seamen and Watermen (including Sailors and Steamboatmen)	4,463	34.6	7.7
Boot and Shoemakers	6,960	54.0	7.7
Barbers (including Hairdressers)	2,549	18.3	7.2
Carmen (including Coachmen and Teamsters)	9,813	69.3	7.1
Printers	5,134	36.0	7.0
Painters (including Varnishers)	5,824	40.0	6.9
Masons and Stonecutters	6,586	44.6	6.8
Carpenters (including Cabinetmakers, Upholsterers and Joiners)	15,498	103.0	6.6
Dressmakers (including Milliners, Mantuamakers, Tailoresses and Seamstresses)	18 614	120.0	6.4
Teachers (Female)	2,173	13.0	6.0
Tailors	9,697	55.6	5.7
Bakers	3,855	21.3	5.5
Bookbinders	2,276	12.0	5.3
Cigarmakers (including Tobacco-workers)	5.550	29.0	5.2
Domestic Servants	49,440	253.0	5.1
Butchers	4,870	22.3	4.6
Clerks (including Salesmen and Accountants in stores, banking, brokerage, insurance and manufacturing establishments, and Civil Employés of Government)	35,432	163.0	4.6
Hatters (including Hat and Capmakers)	1,744	6.6	3.8
Physicians and Surgeons	1,741	6.6	3.8
Pedlers (including Hucksters and Commercial Travellers)	4,744	18.0	3.8
Merchants (including Traders and Dealers)	23,872	75.3	3.1
Stablemen (including Livery Stablekeepers and Hostlers)	1,278	4.0	3.0
Teachers (Male)	1,338	3.0	2.2

REPORT

OF THE

DEPUTY REGISTER OF RECORDS.

CHARLES P. RUSSEL, M. D., *Register of Records.*

SIR: In accordance with your request, I have the honor to submit the following report:

The system of registration which has been employed during the past two years is still continued. The total number of burial permits granted during the year 1871, amounted to 32,035, of which 26,981 were upon certificates of city deaths, (* the registered mortality;) 2276 were upon returns of still-births; 2645 were issued to allow bodies to enter and pass through this city, and 133 to remove bodies from city cemeteries. Of the certificates of city deaths received in this Bureau, there were 768 faulty or imperfect, which were returned to the attending physicians to be remodeled, and 156 were sent to the coroners for investigation, being generally those of persons who died from violence or suddenly when in apparent health, (and which came under Sec. 1 amended law regulating coroners inquests in the county of New York;) while a few were of persons who died under suspicious circumstances, and with regard to whose manner of death official evidence was deemed necessary.

The continuance of an assiduous supervision or scrutiny over the death certificates has had a decidedly beneficial result as regards the improvement in their statements of diagnosis and also as a preventive of crime. The certificates which are now presented to this Bureau from physicians are much more explicit than formerly as to the chief causes of death, the time of attendance of the physician, the duration of the disease and the complicating or remote causes when existing.

The Register has devoted his personal attention to procuring as accurate statistics as possible, and in respect to deaths his labor has resulted in eliciting special reports in rare cases for the information and benefit of those interested in correct mortuary statistics. Physicians have on all occasions cheerfully contributed whatever information was required from them, and to their prompt and willing co-operation the Register is indebted for the success which has attended his efforts in bringing the statistics to such a state of perfection

The frequency with which certificates of death were once received in this Bureau when the causes were not definitely stated has prompted the Register to make a selection of those diseases which were most frequently ill defined, and have them printed on the back of the certificates, so that delay or inconvenience might be obviated in preparing the necessary funeral arrangements. The following improved certificate is the one that has been adopted by this Bureau.

The special attention of Physicians is respectfully invited to the remarks below, and to the list of Diseases upon the back of this Certificate.

THE BOARD OF THE HEALTH DEPARTMENT OF THE CITY OF NEW YORK
Has made the following order:

"All permits for the removal of the body of any deceased person from the City of New York for interment, and all burial permits, and permits for the disinterment of the remains of deceased persons in the City of New York, shall be granted and signed by the Register of Records."

The Physician who attended any person in a last illness is responsible for the presentation of this Certificate, accurately filled out, to the Bureau of Records of Vital Statistics, within 36 hours after said person's death. (Sec. 150 of Sanitary Code.)

No permit for burial will be granted without a proper certificate.

All physicians practicing in New York City (including those in public institutions) are required to register their names in the Bureau of R. of V. Statistics. (Sec. 5 of Sanitary Code.)

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* By the registered mortality is meant the number of certificates of death which are received during each 24 hours counted daily at noon. This is the mortality given weekly to the press for publication.

CERTIFICATE OF DEATH.

1. Full Name of the Deceased. {Write legibly and spell correctly. If an infant not named, give parents' names} ....
2. Age,................years,................months,................days. Color............ ...
3. Single, Married, Widow or Widower. (Cross out the words not required in this line.)..........
4. Occupation, ...
5. Birthplace (State or Country)..........(How long in the United States, if of foreign birth),
6. How long resident in this City,..
7. Father's Birthplace (State or Country),...
8. Mother's Birthplace (State or Country),...

Let these returns be specific.

9. Place of Death, No......................................Street,.........................Ward.
10. If a Dwelling, by how many Families, living separately, occupied,...........................
11. I Hereby Certify, that I attended deceased from................187..to................187..: that I last saw......alive on the..........day of..................187..; that......died on the ....day of..................187...about..........o'clock A. M. or P. M.; and that the cause of......death was:

First, (Primary,)..

Second, (Immediate,) ....

Time from Attack till Death:
[Write opposite each cause; if unknown it should be so stated.]
....
....

All the above information should be furnished by the Physician.

Place of Burial,...
Date of Burial, ...
Undertaker, ...
Place of Business,...

Signed by
........................M. D.
Medical Attendant.
Address,...................................

Rooms for granting Burial Permits, Nos. 48 and 51. Hours from 7 A.M. to 9 P.M. on week-days; from 9 A.M. to 6 P.M. on Sundays. Please examine the list of Diseases on the back of this Certificate.

[Back of Certificate.]

The attention of Physicians it earnestly invited to the following list of diseases, in reference to which the particulars specified are essential to the *proper classification* of causes of death, and consequently to the *accuracy* and *usefulness* of our statistics of mortality. It is respectfully suggested that a *negative* statement is often as important as a positive one—for instance: "Abortion—*At two months.*—Metritis—*No cause discoverable.*" "Cancer of Stomach—*Not hereditary, as far as known.*" "Erysipelas of Head—*Not of traumatic origin.*" "Gangrene of Leg—*No definite cause.*" Metritis—*Not puerperal.*" "Small Pox—*Patient never vaccinated.*" Ovarian Tumor—*No operation,*" &c.

Abscess—Location, and Cause, if any.
† *Aneurism*—Vessel involved and mode of death, Whether operation.
* *Abortion and Miscarriage*—Cause, mode of death, and Period of Gestation.
Cer-Spin. Meningitis—Variety, whether probably Zymotic, (Cer. Spin. Fever,) or a simple inflammation.
Childbirth—Circumstances producing death.
Cancer—Variety and seat; whether hereditary or not.
† *Calculus*—Mode of death; whether after Operation, and if so, what one?
Carbuncle—Location.
Congestive Fever—Variety.
Continued Fever—Whether simple Cont. Fever or other variety.
Dentition—Mode of death.
Disease of Heart—Variety. Valves involved, if any.
Dropsy—Variety and cause.
Enteritis and Gastro Enteritis—Cause, if known. Whether diarrhœal or not.
* *Erysipelas*—Seat and cause; if traumatic, how produced.
* *Fractures*—Cause and mode of death; state nature of accident, &c., clearly.
* *Gangrene*—Seat and cause.
Gastric Fever—Whether Remittent, Typhoid, &c., or simple Gastritis.
Gastritis—Whether Simple, or from a definite cause.
† *Hernia*—Variety and mode of death. Whether any Operation.
Insanity—Variety and mode of death.
Intermittent Fever—Variety, as Quotidian, Tertian, &c.
Jaundice—Cause.
Malarial Fever—Variety.
Malignant Pustule—Location and cause; whether probably dependent on contagion or not.
Malformation (Congenital)—Variety.
Metritis—Variety and cause—(whether Puerperal or not).
Necrosis and Caries—Seat, Original Cause, and Mode of Death.
† *Ovarian Tumor*—Mode of Death. Whether Operation.
Paralysis—Variety and cause.
* *Peritonitis*—Variety—Whether Simple, Puerperal, Traumatic, &c.; and if the last, how produced?
Phlebitis—Cause, Seat, and Variety.
* *Pyæmia*—Cause: Nature of antecedent injury, if any, and how produced?
* *Premature Birth*—Probable Cause; fœtal age.
Preternatural or Abnormal Birth—Manner of.
Small-pox—How often and when patient vaccinated.
Syphilis—Variety, chief location & mode of death.
* *Tetanus*—Whether Idiopathic or Traumatic. Nature of antecedent injury, if any, and how produced?
† *Tumor*—Location, variety and mode of death. Whether Operation.
Ulcers—Nature, chief location and mode of death.
Uræmia—Cause or associate affection. Whether Puerperal.
* *Wounds*—Cause, Variety, Seat and Mode of Death.

* Particularize any accident or other violent cause leading to death, and character of injury.

† Specify every surgical operation with fatal result, and state the disease which necessitated it.

Mention Intemperance whenever recognized as having produced or complicated the direct cause of death. Give as many particulars as possible in instances of rare diseases, such as Hydrophobia, Glanders, &c.

This certificate is required to be carefully filled up and returned to this Bureau within 36 hours after the death, when it is marked with the corresponding number on the burial permit, for which it is exchanged. Should, however, a person die from a contagious disease, the following preliminary notice of death is also required to be returned within 24 hours.

PRELIMINARY NOTICE OF A DEATH FROM A CONTAGIOUS DISEASE.

(To be delivered to the Register of Records, 301 Mott Street, within 24 hours after the death referred to.) See back of this Notice.

.... 187

I hereby Certify that I attended...

from the................**day of**.................. ....**187..to the**................day

of...........................**187..; that**..........**died on the**...................day of

..........................**187.., about**........**o'clock A.M.**...**P.M., at No.**...............

..................**and that the Cause of Death was**...............................

Signed by ...., M.D.

Address,. ....

(Back of Preliminary Notice of Death.)

At a meeting of the Board of Health of the Health Department of the City of New York, held on the 28th day of December, 1870, the following Resolution was adopted:

"*Resolved*, That Sec. 167 of the Sanitary Code be and is hereby amended to read as follows:

"Sec. 167.—It shall be the duty of each and every practicing physician in the City of New York to report in writing to the Board of Health the death of any of his patients who shall have died in said city of contagious or infectious disease, within 24 hours thereafter, and to state in such report the specific name and type of such disease."

Contagious diseases are defined by Sec. 5 of the Sanitary Code to include all diseases of an infectious, contagious or pestilential nature (more especially, however, referring to the Cholera, Yellow Fever, Small-pox, Diphtheria, Ship or Typhus, Typhoid, Spotted, Relapsing and Scarlet Fevers), and also including any disease publicly declared by the Board of Health dangerous to the public health.

In addition to this notice, the usual "Certificate of Death" is required, to be presented to this Bureau within 36 hours after death from a contagious disease.

(Burial Permit given to the Undertaker in exchange for the Certificate of Death.)

Keepers of Cemeteries in New York City will make returns of all Permits for Burials to the office whence issued, Monday of each week.

This Permit must in all cases accompany the body to its destination.

No. ......

HEALTH DEPARTMENT,

See back of this Permit.

Bureau of Records of Vital Statistics,

No. 301 Mott St., New York,.......187

Permission is hereby given to remove the remains of

.................; **Age,**........; **Date of Death,**............

Cause of Death,...... **Occupation**...... **Place of Birth,**......

Residence,..

To. ....**for Interment.**

.... **Register of Records.**

(COUPON.)

Burial Permit No......

Before this body leaves the city, the Ferry or Bridge Master, or Transportation Agent, will tear off and destroy this Coupon. If otherwise detached from the Permit, the Coupon must not be received.

(Back of Burial Permit.)

☞ Ferry or Bridge Masters, Transportation Agents, Superintendents of Rail Road and Steamboat Lines, &c., will deliver a body *entering* New York City to the person having this permit. The Coupon must be detached *only* in case of a body *leaving* the city.

(Portion attached to the Burial Permit Book, called the Stub.)

No. ....

New York,.......................... .....187..

Permission is granted to..

to remove the body of..

from..

for Interment at..

Cause of Death,..

Certified by..

The conditions regulating burials are defined by Sec. 141 of the Sanitary Code of the Health Department of 1870, which compels those who are desirous of burying the body of a human being in this city to procure a permit for burial, and which does not allow a person to assist or assent to an interment without such permit.

After the certificate of death is received in this Bureau it is endorsed by the Register, and sometimes by the Deputy, with the stated causes of death, the principal cause being selected as the first, and the others as the complicating or remote causes, which are plainly written so that each may be correctly entered by the clerk on the register of deaths. It is important that persons who fill out certificates of deaths, births or marriages write the names on their respective certificates legibly, and spell them correctly, as carelessly written certificates have often put the relatives and friends to considerable trouble and inconvenience when transcripts from the records have been needed.

The existing laws offer no hindrance to any person who chooses to practice medicine in this city without a certificate of qualification, as by a law of the State* the word physician includes dentists and every person practicing about the cure of the sick, or who has charge of or professionly prescribes for any person sick, injured or diseased, the only additional requirement being that which is contained in Sec. 5 of the Sanitary Code of the Health Department of 1870, which states that "every physician in this city shall at all times cause his or her name, office and residence, and also his or her kind of practice to be registered within the Bureau of Records of Vital Statistics, and in a manner according to the regulations prescribed by this Board." Thus the law makes no distinction between the graduates of incorporated institutions and others who choose to practice without a diploma, but places them on the same equality by bestowing the same recognition upon the one as the other. During the continuance of this law it is not very surprising that mistakes in diagnosis and orthography continually occur on the certificates of deaths and births, as well as that the practice of crime and fraud is fostered and encouraged. As a matter of justice to a hardworking and meritorious profession, and as a safeguard against crime, the law should be so amended as to recognise only those who have received a diploma from some of the incorporated schools of medicine in the United States, or a foreign college in good standing, and none others should be permitted to sign certificates of death.

On account of the great number and variety of medical practitioners in this city and the difficulty in distinguishing or separating the graduate from the imposter, the Health Department should be legally empowered to issue licenses to graduates of incorporated colleges of medicine who desire to practice in this city, in order that crime, quackery and fraud might be prevented, the license to state the name, age, college, when and where graduated, if allopathic, homeopathic, eclectic, &c. If any person should sign a certificate of death in this county without being a duly qualified or licensed physician (Coroner's cases excepted) he should be guilty of a misdemeanor and liable to fine and imprisonment; and if the diploma should be procured by fraud, or the person who holds it forfeit by malpractice the public confidence, the Board should be possessed with the power of revoking it. The medical profession have often been held responsible for the blundering and ignorance of quacks, who, by overdosing and maladministering powerful drugs and the use of their special empirical preparations (which are advertised extensively for the cure of all infirmities) succeed in imposing on the poor and credulous, by which means they yearly add to the mortality.

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* Laws of 1863, Chapter 358, Sec. 11. Laws 1859, Chapter 275, Title 3, Sec. 34.

To the present Register belongs the credit of having introduced and published the condensed statement of the number of deaths which actually occur in this city during each day of the week, with an enumeration of the most prominent causes, accompanied by the daily meteorological observations for the same period and the registered mortality for a week later. These are weekly forwarded to the principal health authorities throughout the United States and the proper sanitary departments in Europe, who send their mortality statements in return. I respectfully submit its form and also the forms of other blank certificates used in this Bureau in order to satisfy the continual demand for specimens by persons anxious to improve or intending to establish health departments or bureaux of registration in their respective cities.

HEALTH DEPARTMENT OF THE CITY OF NEW YORK, No. 301 MOTT STREET.—CONDENSED STATEMENT OF MORTALITY.

Number of Deaths which *actually* occurred during each day of the week ending Saturday, October 21st, 187 , with an enumeration of the more prominent causes. Accompanied by the daily Meteorological Observations for the same period, and the *registered* mortality for week ending October 28th.

CHAS. P. RUSSEL, M.D., *Reg. of Records.*

187 MONTH AND DAY. October.	Date.	Small Pox.	Measles.	Scarlatina.	Diphtheria.	Memb. Croup.	Whooping Cough.	Typhus Fever.	Typhoid Fever.	Diarrhoeal Diseases. Under 5 Years.	Diarrhoeal Diseases. All ages.	Alcoholism. (Direct or Remote.)	Cancer.	Phthisis Pulmonalis.	Marasmus—Tabes Mesent., and Scrofula.	Hydrocephalus and Tuberc. Meningitis.	Convulsions.	All Diseases of Nervous System.	Heart Diseases.	Pneumonia.	Bronchitis.	Bright's Disease and Nephritis.	Puerperal Diseases.	Deaths by Suicide.	All Zymotic Diseases.	All Constitutional Diseases.	All Local Diseases.	All Developmental Diseases.	Deaths by Violence.	Deaths in Institutions.	All Deaths of Persons 70 years old or more.	Total Deaths of Children. Under 1 Year.	Total Deaths of Children. Under 2 Years.	Total Deaths of Children. Under 5 Years.	Total Deaths from All Causes.
Sunday	15	1	0	1	1	1	2	0	1	7	7	2	0	11	3	2	2	7	0	8	4	2	2	1	17	17	23	10	3	14	6	16	28	30	70
Monday	16	1	0	1	1	3	2	1	1	6	7	2	1	8	5	0	0	4	2	6	3	0	0	1	17	16	17	4	5	12	1	13	18	26	59
Tuesday	17	2	0	2	0	1	2	0	2	6	8	1	2	8	3	0	1	10	2	9	3	0	1	0	17	13	25	2	2	9	2	16	22	25	59
Wed'day	18	1	0	2	0	2	1	0	0	7	10	1	0	11	1	3	0	2	2	8	4	4	0	0	16	15	21	5	4	11	5	16	23	24	61
Thu'day	19	0	0	1	1	1	3	0	0	7	7	0	1	9	1	2	1	6	2	3	2	2	0	0	17	14	21	1	1	11	2	14	20	28	54
Friday	20	3	0	1	0	0	2	0	0	5	5	1	1	9	3	3	2	7	4	5	2	1	1	1	11	18	22	4	10	13	3	17	26	29	65
Saturday	21	1	0	1	2	3	0	0	0	6	6	2	3	10	3	2	3	10	2	4	2	4	2	0	13	19	24	7	0	9	4	15	20	28	63
Total during week		9	0	9	5	11	12	1	4	44	50	9	8	66	19	12	9	46	14	43	20	13	6	3	108	112	153	33	25	79	23	107	157	190	431
Deaths regist'd dur'g week ending Oct. 28, 187		2	0	16	10	13	14	1	9		44		6	84						38	18				124	131	165	34	24						478

METEOROLOGICAL OBSERVATIONS,

TAKEN AT THE COOPER UNION, NEW YORK CITY, DURING THE WEEK ENDING SATURDAY, OCTOBER 21ST, 1871, BY PROF. ORAN W. MORRIS.

1871. MONTH AND DAY.		MOON.	BAROMETER.			READING OF THERMOMETERS.								Degree of Humidity. Saturation represented by 100.	DIFFERENCE.				WIND.		RAIN.	SKY AND ATMOSPHERE.
		Phases of Moon.	Daily Readings Corrected and Reduced to 32° Fahrenheit.			DRY.				SELF-REGISTERING			Highest in the Sun.		Between Humidity and Air Temperature.			Between Mean Temperature of the Day, and Mean Temperature of corres day for 10 yrs	General direction.		Collected in a Gauge the surface 6 in. above the Ground.	
			High-est.	Lowest	Mean.	High est.	Low-est.	Range	Mean Daily Value	High est.	Low-est.	Range.			Mean.	Great-est.	Least.					
Oct.	Date.		in	in	in	o	o	o	o	o	o	o	o	o	o	o	o	o	A.M.	P.M.	in	
Sunday	15	New	30.155	30.105	30.123	70.0	55.0	15.0	64.66	73.0	54.0	19.0	103.9	51.13	—13.53	—21.46	—2.66	+7.30	S W	S W	——	Light Clouds A.M. thick evening.
Monday	16	··	30.087	29.926	29.986	55.8	54.5	1.3	55.10	56.0	54.0	2 0	63.5	55.40	+0.30	—7.50	+3.00	—3.00	N W	W N W	——	Rain, slight, A.M. clear evening.
Tuesday	17	··	29.995	29.852	29.907	62.2	50 0	12.2	55.80	62.0	47.0	15.0	94.0	64.43	+8.63	+24.70	—14.60	—0.89	N W	W	——	Clear.
Wednesd'y	18	··	30.055	29.885	29.953	54.6	47.0	7.6	50.36	57.0	38.0	19.0	85.5	44.36	—6.00	—15.96	+10.54	—7.21	N W	W	——	Slight rain, M. clear evening.
Thursday	19	··	30.093	29.715	29.885	54.[illegible]	41.8	13.2	49.93	55.0	41.0	14.0	81.5	45.93	—4.00	+3.47	—10.03	—6.21	N W	W	——	Light clouds.
Friday	20	F'st qr	30.347	29.937	30.123	51.2	43.0	8.2	48.06	51.0	35.0	16.0	89.0	36.50	—11.56	—20.40	—4.76	—6.38	N W	N W	——	do.
Saturday	21	··	30.456	30.185	30.216	53.0	41.0	12.0	48.83	60.0	41.0	19.0	85.0	48.76	—0.07	+14.47	—8.13	—3.24	N E	S W	——	Clear and Smoky.
Means					30.042			9.9	53.25			15.0	85.9	49.76	—2.89			—2.80				

The height of the Cistern of the Barometer is considered to be 46 feet above tide water. The Ordinary, Maximum, Minimum and Wet-Bulb Thermometers are in the open air and shade. Mean temperature deduced from observations taken at 7 A.M., 2 P.M., and 9 P.M.

MARRIAGES.

The number of marriages registered in this Bureau during the year 1871, was 8646, which is an increase of 661 as compared with the returns of the previous year. Of this number 5601 husbands and 4924 wives were recorded as being of foreign birth and 2601 husbands and 3271 wives of native birth. The greatest number of marriages took place between persons whose ages ranged from 20 to 25 years, males numbering 2868 and females 3477. Ten males were married between the ages of 65 and 70 years, and one female at the age of 78 years. During the month of September, the largest number of marriages were reported (901), and the least in March (523).

It is satisfactory to announce an augmentation in this branch of statistics, and a display of greater promptness in forwarding the certificates to this Bureau after the performance of the marriage ceremony. But notwithstanding the improvements referred to, it is impossible to procure an accurate or complete record of marriages and births unless the law be made more stringent and be properly enforced. There are marriages and births of daily occurrence and which are known to us, but which we fail to procure on account of the laxity of the law. A fine of $10 is nominally imposed on clergymen and others who are tardy in reporting marriages or births, no additional sum being required from those who do not report at all, but the fine is seldom collected. This amount, although small, if exacted from those who are habitually negligent, would certainly prove beneficial in procuring an increase in the yearly returns. It is also of frequent occurrence that letters are received from various cities throughout the United States and foreign countries and also for persons to call who are in search of transcripts from these records or who desire to ascertain if a particular marriage or birth is recorded, but on account of our imperfect system a number are disappointed in finding them. Some even produce copies from the church registers as evidence of their marriage, and complain bitterly of the negligence of the clergymen in not reporting them to this Bureau. Convincing arguments have often been offered heretofore for the necessity of having all marriages, births and deaths registered in a central office in order that strangers and others can promptly and with facility obtain whatever information they may seek respecting these important branches of registration, without being compelled to undergo trouble in fruitlessly searching through the city for evidence of a birth, marriage, or death, or to accept whatever testimony they might be able to procure, no matter how imperfect. The marriage act permits us only to record a certificate which has the signature of the officiating clergyman, magistrate, &c., except those that are performed according to the rules of the society of Jews or Quakers, and consequently we can only hold those gentlemen responsible for their return. In order to procure correct and full returns of marriages and births, it is necessary that a stringent law should be first enacted and then rigidly enforced and an increased fine imposed according to the frequency of omission or degree of culpability upon persons who solemnize marriages or who attend at births and fail to return them to this department, or a law making it obligatory for persons intending to be married in this city to obtain a license from this Bureau previous to the performance of the marriage ceremony. Such means, together with that suggested in my report of last year in reference to the collecting of the statistics of marriages and births, would seem indispensable for a complete registration on account of the continued failure of the voluntary system, and unless adopted, our efforts to perfect it will be thwarted and of no avail. Few remonstrances or complaints have been made against the registration law since its introduction, but on the contrary, its beneficial effects have been everywhere extolled. It is, therefore, impossible to state what excuse delinquent clergymen or physicians have for not complying with its requirements other than that the duty imposed on them is too onerous and the means of accommodation not sufficiently convenient for their returns. If any different arrangment is needed in the manner of registration or improvements in the system suggested, by the proper parties, or any desirability of the adoption of a different plan of returning the marriages, births and deaths, I am certain they would receive consideration from the Board. The registers of marriages which are furnished free to clergymen and others duly qualified to solemnize them in this city, contain twenty certificates, which, like the birth registers, are attached by means of punctured holes so that they can be readily detached, the clergymen, physicians, &c., retaining the bound portion for their own private use, containing all the items stated on the certificate. The latter is intended to be sent to this Bureau within ten days after a birth, or the solemnization of a marriage. The form of certificate used is here submitted and contains printed directions and extracts from the law as a guidance to those who are unacquanted with it.

This Certificate and Return of Marriage must be made to the Register of Records, 301 Mott Street, New York, within Ten Days after the Marriage Ceremony.

(EXTRACTS FROM THE STATUTES.)

(*From Amendment to Marriage Act, April 2d, 1853.*)—It shall be the duty of Clergymen, Magistrates, and other persons, who perform the Marriage ceremony in the City of New York, to keep a Registry of the Marriages celebrated by them, which shall contain the names and surnames of the parties married, the residence, age, and condition of each; whether single or widowed.

(*From § 13, Chap. 74, Session Laws, 1866.*)—"And for every omission of any person to make and keep the Registry required by the Acts referred to in this Section, and for every omission to report a written copy of the same to said Board within ten days after any Birth or Marriage provided to be registered, any person guilty of such omission shall be liable to pay a fine of ten dollars, which may be sued for and recovered in the name of said Board."

CERTIFICATE OF MARRIAGE.

STATE OF NEW YORK.

—o—

I HEREBY CERTIFY, that........................and ....were joined in marriage by me, in accordance with the Laws of the State of New York, in the City of..........this..........day of........18..

Attest,......................

WITNESSES TO THE MARRIAGE:

Official Station,............

....

Residence,..................

....

(*Portion forwarded to this Bureau within Ten Days after the Marriage Ceremony.*)

(*Back of the Marriage Certificate which is to be properly filled up and sent to this Bureau.*)

To the Bureau of Records of Vital Statistics.

Health Department of the City of New York.

RETURN OF A MARRIAGE.

1. Full Name of HUSBAND,..........................
2. Place of Residence..........................
3. Age next Birthday,......years,...............
4. ....
5. Occupation,..............................
6. Place of Birth,..............................
7. Father's Name,..............................
8. Mother's Maiden Name,......................
9. No. of Husband's Marriage,..................
10. Fu'l Name of WIFE,..........................

Maiden Name, if a Widow,....................

11. Place of Residence,..........................
12. Age next Birthday,......years,...............
13. ....
14. Place of Birth,..............................
15. Father's Name,..............................
16. Mother's Maiden Name,......................
17. No. of Wife's Marriage,......................

N. B.—At Nos. 4 and 13 state if Colored; if other races, specify what. At Nos. 9 and 17 state whether 1st, 2d, 3d, &c., Marriage of each.

New York,..........187

We, the Husband and Wife named in the above Certificate, hereby Certify that the information given is correct, to the best of our knowledge and belief.

............................(Husband.)

............................(Wife.)

Signed in presence of..........................

and..........................

(*Portion retained by the Clergyman, &c.*)

To the Bureau of Records of Vital Statistics.

Health Department of the City of New York.

RETURN OF A MARRIAGE.

1. Full Name of HUSBAND,..........................
2. Place of Residence,..........................
3. Age next Birthday,......years,...............
4. ....
5. Occupation,..............................
6. Place of Birth,..............................
7. Father's Name,..............................
8. Mother's Maiden Name,......................
9. No. of Husband's Marriage,..................
10. Full Name of WIFE,..........................

Maiden Name, if a Widow,....................

11. Place of Residence,..........................
12. Age next Birthday,......years...............
13. ....
14. Place of Birth,..............................
15. Father's Name,..............................
16. Mother's Maiden Name,......................
17. No. of Wife's Marriage,......................

N. B.—At Nos. 4 and 13 state if Colored; if other races, specify what. At Nos. 9 and 17 state whether 1st, 2d, 3d, &c., Marriage of each.

New York,..........187

We, the Husband and Wife named in the above Certificate. hereby Certify that the information given is correct, to the best of our knowledge and belief.

............................(Husband.)

............................(Wife.)

Signed in presence of..........................

and..........................

The following abstract of marriages will epitomize the principal facts connected with this branch of registration for the year ending December 31st, 1871, and the subjoined table the ages of those married during the same period.

ABSTRACT OF THE REGISTRY OF MARRIAGES IN THE CITY OF NEW YORK

For the Twelve Months ending December 31st, 1871.

1871.	Total.	Color.				Nativity.								Condition.									
		White.		Black.		Foreign.		Native.		Born at Sea.		Not Stated.		1st Marriage.		2d Marriage.		3d Marriage.		4th Marriage.		Not Stated.	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
January	636	628	628	8	8	411	353	202	257	..	1	23	25	556	530	63	78	1	3	..	..	16	26
February	640	631	631	9	9	452	396	181	233	..	1	7	10	541	538	79	82	4	2	..	..	16	18
March	523	508	511	15	12	339	309	166	196	..	..	18	18	444	441	57	59	1	1	1	..	20	22
Total 1st Quarter	1799	1767	1770	32	29	1202	1058	549	686	..	2	48	53	1541	1509	199	219	6	6	1	..	52	65
April	654	636	637	18	17	410	388	230	253	1	1	13	12	539	539	92	89	5	..	..	..	18	26
May	830	814	815	16	15	572	485	225	314	1	1	32	30	689	685	107	90	6	5	1	..	27	50
June	749	730	730	19	19	484	421	248	306	..	1	17	21	611	632	110	86	7	1	..	..	21	30
Total 2d Quarter	2233	2180	2182	53	51	1466	1294	703	873	2	3	62	63	1839	1856	309	265	18	6	1	..	66	106
July	583	577	577	6	6	419	359	152	210	..	1	12	13	487	487	76	65	4	3	..	..	16	28
August	651	642	642	9	9	445	389	172	227	..	1	34	34	527	529	102	84	..	..	..	1	22	37
September	901	884	884	17	17	458	412	235	280	..	..	208	209	596	603	85	70	7	4	..	..	213	224
Total 3d Quarter	2135	2103	2103	32	32	1322	1160	559	717	..	2	254	256	1610	1619	263	219	11	7	..	1	251	289
October	894	872	872	22	22	578	502	279	356	..	..	37	36	743	753	102	82	7	2	3	..	39	57
November	808	800	800	8	8	540	487	247	297	..	1	21	23	665	680	114	87	7	2	..	..	22	39
December	777	763	763	14	14	493	423	273	342	..	..	11	12	630	637	123	110	7	3	..	..	17	27
Total 4th Quarter	2479	2435	2435	44	44	1611	1412	799	995	..	1	69	71	2038	2070	339	279	21	7	3	..	78	123
Total for 12 months	8646	8485	8490	161	156	5601	4924	2610	3271	2	8	433	443	7028	7054	1110	982	56	26	5	1	447	583

AGES OF PERSONS MARRIED.

1871.	AGES.																									
	Under 20		20 to 25		25 to 30		30 to 35		35 to 40		40 to 45		45 to 50		50 to 55		55 to 60		60 to 65		65 to70		70 to 80		80 to 90		Not St'd.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
MONTHS.																												
January	20	168	241	269	199	118	88	41	45	19	20	10	9	1	6	3	3	..	..	..	..	..	..	..	..	..	5	7
February	17	165	213	264	213	117	93	40	44	30	22	11	21	4	6	2	4	..	2	..	..	..	..	..	..	..	5	7
March	12	155	194	215	167	85	82	32	34	16	17	10	7	3	4	1	2	..	1	..	..	..	..	..	..	..	3	6
Total 1st Quarter...	49	488	648	748	579	320	263	118	123	65	59	31	37	8	16	6	9	..	3	..	..	..	..	..	..	..	13	20
April	6	103	259	300	195	140	83	49	51	32	26	16	14	8	8	3	7	1	2	..	2	..	..	..	..	..	1	2
May	15	205	262	340	285	167	135	52	60	33	38	15	18	5	6	2	4	2	1	..	..	..	..	..	..	..	6	9
June	14	200	238	310	248	148	118	46	65	17	21	15	19	3	9	1	4	..	..	..	1	..	..	..	..	..	12	9
Total 2d Quarter...	35	508	759	950	728	455	336	147	176	82	85	46	51	16	23	6	15	3	3	..	3	..	..	..	..	..	19	20
July	14	166	188	216	191	117	87	37	46	23	23	7	14	3	6	1	5	..	..	1	..	..	..	..	..	..	9	12
August	15	181	213	249	196	104	88	40	59	28	29	12	12	5	13	3	1	1	1	..	1	..	..	..	..	..	23	28
September	19	191	261	303	220	129	105	44	51	28	29	9	15	4	7	2	2	..	2	1	2	..	..	..	..	..	188	190
Total 3d Quarter...	48	538	662	768	607	350	280	121	156	79	81	28	41	12	26	6	8	1	3	2	3	..	..	..	..	..	220	230
October	27	228	290	351	284	159	121	55	63	31	27	13	15	13	15	3	2	1	6	..	3	..	..	..	..	..	36	40
November	14	213	266	329	269	143	127	50	44	33	40	14	20	6	8	5	5	1	2	..	..	1	..	1	..	..	13	12
December	21	177	243	331	249	143	125	54	58	36	34	16	16	7	13	3	4	2	2	..	1	..	..	..	..	..	11	8
Total 4th Quarter..	62	618	799	1011	802	445	373	159	170	100	101	43	51	26	36	11	11	4	10	..	4	1	..	1	..	..	60	60
Total 12 months	194	2152	2868	3477	2716	1570	1252	540	625	326	336	148	180	62	101	29	43	8	19	2	10	1	..	1	..	..	312	330

NUMBER OF MARRIAGES RECORDED DURING EACH MONTH FOR THE PAST SIX YEARS.

YEARS.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
1866....	256	228	229	274	461	523	601	554	604	767	683	612	5792
1867....	557	493	517	636	766	727	580	530	645	674	578	441	7144
1868....	569	547	469	615	744	635	524	584	584	623	658	374	6926
1869....	687	621	565	883	832	709	656	608	998	620	822	694	8695
1870....	717	580	734	500	702	804	590	538	628	662	1049	481	7985
1871.....	636	640	523	654	830	749	583	651	901	894	808	777	8646
Total....	3422	3109	3037	3562	4335	4147	3534	3465	4360	4240	4598	3379	45,188

TABLE SHOWING THE NUMBER OF MARRIAGES ON RECORD FOR EACH YEAR, AND THE GRAND TOTAL REGISTERED IN THIS BUREAU.

Years.	Number of Marriages recorded.	Years.	Number of Marriages recorded.	Years.	Number of Marriages recorded.
1822	1	1848	440	1861	2846
1834	1	1849	13	1862	2909
1835	1	1850	10	1863	3218
1838	1	1851	14	1864	3222
1839	1	1852	37	1865	2816
1840	1	1853	3301	1866	5792
1841	3	1854	5515	1867	7513
1842	42	1855	3996	1868	6926
1843	6	1856	3763	1869	8695
1844	1	1857	3999	1870	7985
1845	3	1858	3595	1871	8646
1846	4	1859	3149	....	....
1847	338	1860	4088	....	....

Total number of Marriages recorded, 92891.

NATIVITY OF PERSONS

WHOSE MARRIAGES WERE REGISTERED IN THIS BUREAU DURING THE PAST SIX YEARS.

YEARS.	Foreign.		Native.		Not Stated.		Born at Sea.	
	M.	F.	M.	F.	M.	F.	M.	F.
1866	3659	3428	1351	1588	782	776	..	..
1867	5051	4654	1890	2280	203	210	..	..
1868	4818	4398	1963	2387	145	141	..	..
1869	5860	5255	2605	3202	230	238	..	..
1870	5471	4848	2270	2900	242	236	2	1
1871	5601	4924	2610	3271	433	443	2	8
Total.........	30,460	27,507	12,689	15,628	2,036	2,044	4	9

BIRTHS.

The number of living infants born in the city of New York during the year 1871, whose births were recorded in this Bureau, amounted to 20,821, of which 153 were twin births and three were triplets, an increase over the previous year of 6297 and the largest number of births recorded in any year since the passage of the registration law. This augmentation is most gratifying, as it shows the growing interest that is taken in this important branch of statistics, although it is safe to say that this number represents but two-thirds of the births which actually occur in this city.

The system regulating the returns of births which prevailed last year still exists, and as a consequence is defective, no compulsion being used to make those present at an accouchment report the birth. Those received were all voluntary contributions from physicians and midwives who are convinced of the value of correct registration, having had practical knowledge of its benefits.

It is unreasonable to suppose that we can ever procure the exact number of births which occur in this city under our present system, notwithstanding the recent large increase, for the reasons stated, and also because of the number of physicians and midwives who have an extensive practice and who reside at inconvenient distances from the central office, who might be perfectly willing and desirous of making their returns, yet fail to do so on account of the time and labor that is entailed upon them in forwarding the certificates to this office. This indifference, however, is not general, as there are some physicians and midwives who have always been in the habit of making returns at their own expense, and who are located at the most remote and inaccessible parts of the island. There are also midwives who cannot write the English or any other language legibly, and more who cannot write at all, and who might not be acquainted with the law, or who adopt the practice from pecuniary motives alone who do not report, and moreover, do not intend to do so unless compelled by law, although stamped and directed envelopes have been furnished clergymen, physicians and midwives gratuitously by this Bureau. There is no legal hindrance placed upon those who practice this branch of medicine, no matter how incompetent they may be.

The birth registers which are furnished gratuitously to physicians and midwives contain from ten to twenty returns, arranged in the same manner as the marriage certificates.

I respectfully submit the accompanying birth certificate, which briefly contains the law relating to its return printed on the margin.

Portion attached to book, and retained by the medical attendant.

1. Full Name of Child, (if any,)
2. Sex,.....No. of Child of Mother,....
3. Race or Color,......................
4. Date,.................................
5. Place of Birth,......................
6. Full Name of Mother,................
(Maiden name,)
7. Mother's Birthplace,.................
8. Mother's Residence,.................
9. Full Name of Father,
10. Father's Occupation,...............
11. Father's Birthplace,.................
12. Age of Father,..........years; Age of
Mother,.......
13. Weight of Child at Birth,..lbs...ozs
14. Duration of Labor,..... ......hours

Within TEN DAYS from the time of a BIRTH, this form of Report must be filled out and returned to the BUREAU OF RECORDS OF VITAL STATISTICS.

(EXTRACT FROM THE STATUTES.)

From § 13, *Chap.* 74, *Session Laws*, 1866.—"It shall be the duty of the parents of any child born in said Dirtrict, (and if there be no parent alive that has made such a report, then of the next of kin of such child born,) and of every person present at such birth, within five days after such birth or death, to report to said Board in writing, so far as known, the Date, Ward, and Street number of said birth; and for every omission to report a written copy of the same to said Board within ten days after any birth, any person guilty of such omission shall be liable pay *fine of ten dollars*, which ma be sued for and recovered in the name of he Board.

N. B.—This Law is designed to secure a faithful report of birth from the Attending Physician, or some one of the persons who was present at the birth. This law will be rigidly enforced, both as regards the Medical Attendant and the Parents of the child.

Portion to be returned to this Bureau.

RETURN OF A BIRTH.

—o—

TO THE BUREAU OF RECORDS OF VITAL STATISTICS, HEALTH DEPARTMENT.

301 MOTT STREET, NEW YORK.

—o—

1. Full Name of Child, (if any)..
2. Sex......................................No. of Child of Mother, ...
3. Race or Color, (if not of the white race) ....
4. Date of Birth,...
5. Place of Birth, (Street and Number)...
6. Full Name of Mother...
(Maiden Name)..
7. Mother's Birthplace and Age...
8. Mother's Residence..
9. Full Name of Father. ....
10. Father's Occupation..
11. Father's Birthplace and Age..
Signature and Address of Medical Attendant...
Name of Person who makes this Return...
Date of this Return...

The annexed abstract will give a complete analysis of the principal interesting facts pertaining to last year's birth registration, and the accompanying table will show the number of children borne by each mother for the same period.

ABSTRACT OF THE REGISTRY OF BIRTHS IN THE CITY OF NEW YORK FOR THE TWELVE MONTHS ENDING DECEMBER 31st, 1871.

MONTHS.	Total.	COLOR.			SEX.			NATIVITY OF PARENTS.									NAME OF CHILD.	
		White.	Colored.	Not Stated.	Male.	Female.	Not Stated.	Foreign.	Native.	Foreign Fath'r only	For'n Mother only.	Nativity of Father stated only.		Nativity of Mother stated only.		Not Stated.	Stated.	Not Stated.
												Native.	Foreign.	Native.	Foreign.			
January	1708	1691	17	..	919	785	4	1124	348	148	65	..	1	8	12	2	1226	482
February	1809	1797	12	..	928	873	8	1245	304	165	79	1	..	10	3	2	1292	517
March	1808	1785	23	..	936	871	1	1206	346	179	58	..	..	11	6	2	1262	546
Total (1st Quarter)	5325	5273	52	..	2783	2529	13	3575	998	492	202	1	1	29	21	6	3780	1545
April	1320	1303	17	..	686	632	2	932	229	105	42	..	..	9	2	1	943	377
May	1512	1498	14	..	787	724	1	1018	257	139	48	..	1	19	28	..	1047	465
June	1439	1421	18	..	735	700	4	942	262	163	58	..	1	6	8	..	1027	412
Total (2d Quarter)	4271	4222	49	..	2208	2056	7	2892	748	407	148	..	2	34	38	1	3017	1254
July	1741	1721	20	..	924	815	2	1216	259	158	80	..	1	14	8	5	1246	495
August	1918	1894	24	..	1012	903	3	1308	326	178	84	..	..	9	10	3	1346	572
September	1764	1747	17	..	860	897	7	1211	315	146	77	..	1	5	9	..	1238	526
Total (3d Quarter)	5423	5362	61	..	2796	2615	12	3735	900	482	241	..	2	29	27	8	3830	1593
October	1936	1916	20	..	1021	912	3	1309	349	171	78	1	1	7	14	6	1252	684
November	1915	1890	25	..	979	932	4	1313	295	194	83	..	..	12	14	4	1357	558
December	1951	1932	19	..	962	988	1	1320	341	178	83	..	..	13	11	5	1315	636
Total (4th Quarter)	5802	5738	64	..	2962	2832	8	3942	985	543	244	1	1	32	39	15	3924	1878
Total for the Year	20821	20595	226	..	10749	10032	40	14144	3631	1914	835	2	6	124	125	30	14551	6270

NUMBER OF BIRTHS RECEIVED IN THIS BUREAU EACH MONTH DURING THE PAST FIVE YEARS.

Years.	January.	February.	March.	April.	May.	June.	July.	August.	Septem'r.	October.	Novem'r.	Decem'r.	Total.
1867	1113	1063	1149	898	1012	1036	1180	1147	1102	1087	1084	1017	12830
1868	1105	1141	1091	925	930	975	1134	1077	1156	1085	1069	902	12590
1869	1224	1075	1440	1220	764	849	1103	1263	1484	1027	1241	1257	13947
1870	1254	1221	1375	1067	1092	1080	1139	1405	1004	1285	1085	1517	14524
1871	1708	1809	1808	1320	1512	1439	1741	1918	1764	1936	1915	1951	20821
Total........	6404	6299	6863	5430	5310	5379	6297	6810	6510	6420	6344	6644	74712

YEARLY ABSTRACT OF BIRTHS REGISTERED IN THIS BUREAU DURING THE PAST FIVE YEARS.

Years.	Total.	COLORED.			SEX.			NATIVITY OF PARENTS.									NAME OF CHILD.	
		White.	Col'd.	Not Stated	Male.	Female.	Not Stated	Foreign.	Native.	Foreign Fathers only.	Foreign Mothers only.	Nativity of Father stated only.		Nativity of Mother stated only.		Not Stated.	Stated.	Not Stated.
												Native.	Foreign.	Native.	Foreign.			
1867	12830	12684	144	2	6624	6203	3	8190	2302	1058	570	1	1	5	116	536	8354	4476
1868	12590	12488	101	1	6443	6134	13	8264	2162	1019	510	2	11	62	534	26	8466	4124
1869	13947	13755	192	0	7096	6835	16	9080	2457	1227	555	5	10	59	522	12	9945	4002
1870	14524	14353	169	2	7560	6910	54	9282	2553	1459	829	2	17	75	286	20	9987	4537
1971	20821	20595	226	0	10749	10032	40	14144	3631	1914	835	2	6	124	125	30	14551	6270
Total....	74712	73875	832	5	38472	36114	126	48960	13105	6677	3299	12	45	325	1583	624	51303	23409

TABLE SHOWING THE NUMBER OF CHILDREN BORNE BY EACH MOTHER,

As Collected from the Returns of Births received in this Bureau for the Twelve Months ending December 31st, 1871.

Months.	NATIVE MOTHERS.																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Not stated
January	133	88	56	32	24	21	8	6	5	1	2	2	1	..	..	..	..	..	..	..	89
February	132	94	66	47	26	14	9	3	6	3	1	..	..	..	..	..	..	..	..	..	105
March	167	105	80	47	36	20	13	6	5	1	1	1	..	..	1	..	..	..	..	..	62
April	107	65	40	29	14	12	7	6	4	1	1	1	..	..	..	..	..	..	..	..	48
May	149	86	62	39	17	14	8	9	5	2	2	1	..	1	..	..	..	..	..	..	67
June	106	81	57	29	24	16	9	5	3	..	1	1	..	..	1	1	..	..	..	..	67
July	120	73	67	33	25	8	7	10	3	3	..	..	1	..	..	..	..	..	..	..	76
August	170	106	69	59	31	17	15	12	4	2	2	2	..	1	..	..	..	..	..	..	71
September	128	90	59	34	18	14	8	4	4	2	1	1	..	..	..	..	..	..	..	..	59
October	140	94	66	44	30	15	7	6	4	1	..	3	..	..	..	..	..	..	..	..	71
November	182	119	73	59	33	20	14	7	6	3	..	..	..	..	..	..	..	..	..	..	76
December	164	111	94	63	39	34	16	17	7	6	2	1	1	1	..	..	..	..	..	..	89
Total stated	1698	1112	789	515	317	205	121	91	56	25	13	13	3	3	2	1	..	..	....	..	880 4964
Total	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	5844

TABLE SHOWING THE NUMBER OF CHILDREN BORNE BY EACH MOTHER,

As Collected from the Returns of Births received in this Bureau, for the Twelve Months ending December 31st, 1871.

Months.	FOREIGN MOTHERS.																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Not stated
January	196	161	114	77	78	54	38	32	16	11	2	4	4	..	..	1	..	..	..	..	326
February	220	173	129	91	67	74	56	34	18	14	7	3	4	2	..	..	..	..	..	..	412
March	255	208	187	118	94	77	47	44	22	19	4	4	7	1	..	..	..	..	..	..	299
April	199	115	103	90	58	41	27	34	22	14	12	4	4	2	..	..	..	..	..	..	202
May	226	156	134	78	48	52	35	36	14	6	10	1	..	2	1	..	..	..	..	..	214
June	250	177	135	91	73	51	52	50	16	12	9	8	2	1	..	..	..	..	..	..	204
July	249	173	153	120	79	59	48	35	20	13	11	5	..	1	..	1	..	..	..	..	235
August	231	183	150	112	87	69	56	36	19	17	7	5	8	4	1	2	3	..	..	..	299
September	308	233	206	120	92	75	56	36	37	20	11	9	2	2	..	..	..	..	..	..	307
October	213	185	170	183	82	73	55	40	18	10	13	4	1	1	1	..	..	..	..	..	271
November	327	248	191	187	128	87	67	44	23	26	8	9	3	3	..	..	..	..	..	..	301
December	261	180	159	119	87	55	41	23	18	13	3	3	4	2	..	..	..	..	1	..	186
Total stated	2935	2192	1831	1336	973	767	578	444	238	175	97	59	39	21	3	4	3	..	1	..	3256 11696
Total	....	....	...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	14952
Not reported	18	1	1	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....
At Sea	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....
Total	20	1	1	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....
Total not stated	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	4136
Total stated	4653	3305	2621	1853	1291	972	699	535	294	200	110	72	42	24	5	5	3	..	1	..	16685
Total number of Births reported	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	..	20821

TABLE SHOWING THE AGE OF PARENTS.

1871.	Father.								Mother.								
	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	45 to 50	Over 50	12 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	45–50	Over 50
January	..	5	24	26	13	11	7	2	..	4	21	32	22	10	1	..	..
February	..	20	46	52	31	16	3	8	..	10	49	49	38	25	3	..	..
March	..	36	119	124	77	50	26	5	..	25	121	145	89	56	15	2	..
Total (1st Quarter)	..	61	189	202	121	77	36	15	..	39	191	226	149	91	19	2	..
April	1	63	101	114	79	37	23	9	1	23	118	125	92	57	26	1	..
May	1	58	140	129	85	60	29	15	..	34	174	176	103	62	25	5	1
June	5	75	144	145	117	66	32	13	..	33	175	176	118	87	23	5	..
Total (2d Quarter)	7	196	385	388	281	163	84	37	1	90	467	477	313	206	74	11	1
July	2	81	199	198	164	87	43	17	..	44	210	254	158	108	34	3	1
August	3	96	280	252	178	92	39	17	..	67	255	297	230	122	32	5	..
September	2	95	226	219	167	94	40	13	..	56	231	300	188	109	33	6	..
Total (3d Quarter)	7	272	705	669	509	273	122	47	..	167	696	851	576	339	99	14	1
October	..	109	287	286	188	110	47	19	1*	49	292	327	225	116	51	3	..
November	4	198	310	312	214	127	53	13	..	101	357	289	227	136	45	4	..
December	11	156	317	351	213	131	54	12*	1	109	311	400	274	109	35	2	1
Total (4th Quarter)	15	463	914	949	615	368	154	44	2	259	960	1016	726	361	131	9	1
Total for 12 Months	29	992	2193	2208	1526	881	396	143	3	555	2514	2570	1764	997	323	36	3

* Father's age, 83 years.
Total number of Fathers whose age were reported, 8368.

* Mother's age, 14 yrs. 6 mos.
Total number of Mothers whose age were reported, 8765..

TABLE SHOWING THE NUMBER OF BIRTHS ON RECORD

For each Year and the Grand Total Registered in this Bureau,
(not Including Still Births.)

Years.	Total.	Male.	Female.	Sex unknown.	White.	Colored.	Not stated.
1830	1	..	1	..	1	..	..
1832	1	..	1	..	1	..	..
1834	1	..	1	..	1	..	..
1835	1	..	1	..	1	..	..
1839	2	2	..	..	2	..	..
1846	1	1	..	..	1	..	..
1847	314	169	145	..	313	1	..
1848	174	96	78	..	173	1	..
1851	5	3	2	..	5	..	..
1853	9287	4899	4379	9	9174	112	1
1854	17076	8816	8246	14	16858	218	..
1855	13371	6961	6399	11	13210	161	..
1856	15603	8182	7400	21	15417	186	..
1857	17680	9063	8602	15	17558	122	..
1858	12132	6380	5739	13	12069	63	..
1859	8128	4219	3880	20	8080	48	..
1860	5998	3154	2833	11	5961	37	..
1861	9869	5072	4748	49	9798	71	..
1862	7633	3927	3693	13	7607	26	..
1863	6373	3287	3071	15	6335	38	..
1864	5689	2968	2708	13	5661	28	..
*1865	5443	2838	2605	..	5394	49	..
1866	10117	5202	4905	10	10025	87	5
1867	12569	6397	6164	8	12405	164	..
1868	12672	6531	6136	5	12564	108	..
1869	13947	7096	6835	16	13755	192	..
1870	14524	7560	6910	54	14353	169	2
1871	20821	10749	10032	40	20595	226	..
Total	219,435	113,575	105,514	337	217,320	2,107	8

*An error was made in the number of births received for this year in the annual report of 1870.

By a synopsis of this abstract it is observed that the number of male infants were 717 in excess of females; that the sex of 40 was not stated; that 14,144 children were born of foreign parents, and 3631 of native; 1924 had foreign fathers only, and 835 had foreign mothers only. The returns where nativity of the father alone was stated were two native and six foreign, and where the birthplace of the mother alone was stated was 125 foreign and 124 native. (Nearly all of those where the nativity of the mother alone was stated were illegitimate). There were also 80 infants the nativity of whose parentage was unknown. The number of births where the Christian name was given was 14,551. The most prolific age of mothers was from 25 to 30 years, and of fathers from 30 to 35 years; to the former were credited 2556 children, and to the latter 2208. The greatest number of births was reported during the month of December, (1951) and the least in April, (1320).

If there is a law for the enforcement of the returns of marriages and births there ought also to be proper facilities offered for forwarding them to this Department. I see no reason why this city should be behind the various cities of Europe in the registration system, particularly when the city and county is so largely populated by European emigration and where large inheritances are often left both here and abroad to the descendants who can prove their identity and establish their legitimacy. In Europe the latter can easily be done on account of the accuracy of the system employed, but here, in a great number of cases, it is almost an impossibility. In order that no excuse might arise on account of time, clerical labor, &c., this city could advantageously copy from older and more experienced cities and appoint district registers, to be under the supervision of the Register of Records. These sub-registers should reside in the district to which they are assigned, and should devote at least an hour or two each day to office duties, such as distributing the necessary blank certificates, receiving the returns, giving general information regarding the registry laws, &c. Some additional time should be periodically devoted to visiting clergymen and physicians who reside or practice in the sub-registration district, and to examine their registers and copy them on their relative certificates, also to inspect the baptismal records and obtain whatever information from sextons and others as might be useful towards the perfection of these branches. They should also make a house to house visitation in their respective districts when time would admit. They should make a weekly report of labor accomplished, and also perform whatever other duties belonging to those branches might be required of them by the Register of Records.

This can be done with but trifling expense to the city compared with its great value, by the following means, viz.: to divide the city into sub-registration districts which would correspond to the Sanitary districts or to the Police Surgeons' districts. Some of these officials might be induced to act as such sub-registers, in addition to their other duties for a small stipend. Or if this method should be considered impracticable, there are a number of physicians in the city interested in statistics, who, in order to secure accurate information regarding them would willingly undertake the task for a small recompense. In the event of the failure of the above means the Police Commissioners, who are also Commissioners of Health, might be appealed to, to authorize patrolmen, etc., to collect the certificates from the different clergymen and physicians on their post, take them to the station house, so that they could be forwarded each day to this Bureau. We are already greatly indebted to these gentlemen for having rendered us valuable assistance in distributing our blank registers, etc. This plan, if carried out, would be of great assistance, and I think with a little energy displayed, together with a rigid law would enable us to procure what has never been accomplished before in this city, an accurate marriage and birth registration.

TRANSCRIPTS.

During the year 1871, the number of transcripts from the records issued by this Bureau to persons who considered them indispensable for the purposes they wished to accomplish were 918, of which 784 were of deaths, 119 of marriages and 65 of births. These were delivered gratuitously, as no charges are made for information, etc., furnished pertaining to the records of this Bureau; but in order to procure a transcript it is simply necessary to fill up an application with the name of the applicant signed to it and the purpose for which it is desired stated thereon, so that it may not be granted for improper purposes. Considerable satisfaction is given to persons who apply for transcripts from the records of deaths, and who furnish approximate dates, as this branch of registration is accurate, but the marriage and birth registry often give great disappointment on account of their incompleteness.

(Forms of applications for Transcripts.)

APPLICATION FOR A TRANSCRIPT OF A CERTIFICATE OF MARRIAGE.

——o——

New York,..............................187

I respectfully ask for a transcript from the Records of the Bureau of Vital Statistics, of the Health Department, City of New York, relating to the marriage of

Name,..

Date of Marriage,..

By whom Solemnized,..

For what purpose desired,..

Name and Residence of Applicant. { ....
{ ....

APPLICATION FOR A TRANSCRIPT OF A RECORD OF BIRTH.

New York,..............................187

I respectfully ask for a transcript from the Bureau of Records of Vital Statistics, Health Department, City of New York, relating to the Birth of

Name,..

Date of Birth,..

Names of Parents,...

For what purpose desired,...

Name and Residence of Applicant. {
....
....

APPLICATION FOR A TRANSCRIPT OF A RECORD OF DEATH.

New York..............................187

I respectfully ask for a transcript from the Bureau of Records of Vital Statistics, Health Department, City of New York, relating to the death of

Name,..

Date of Death,..

For what purpose desired,...

Name and Residence of Applicant. {
....
....

Communications are constantly received from various parts of the Union and also from foreign countries for transcripts of the records, stating a variety of reasons for having them, some of the most important of which are the following, viz.: information is required of the death of a person by the name of ———, and the letter states that a legacy awaits him or his heirs; from parents, relatives, etc., in regard to missing persons; an authenticated copy of a birth is required by a Registration Bureau of another State; a request is made to enter the names of children on the Birth Register from a parent whose children are refused admission to the public schools of Germany (as he alleges) unless an official certificate as proof of birth is produced: a husband makes inquiry in relation to his wife, who he states was married again in this city; a person wishes the date of his marriage and the birth of his children, the family register having been destroyed; a certificate is wanted for the purpose of establishing the legitimacy of children, which is contested by other heirs; a letter is received stating that a large estate depends on a certificate from this office as proof of a person's decease; a wife forwards a letter which states that she is ill-treated by her husband, who has cast her off and refuses to recognize her as such, and who has married another woman. The Pension Office also requires transcripts as proof of a person having died from wounds or disease contracted in the United States service, and also proof of his marriage and birth of the children who claim it, etc., etc.

These extracts are here submitted so as to show the value and importance of registration, and the grief and sad disappointment which is sometimes occasioned by its neglect. As further evidence, I might here mention that in the year 1833, the report of a select committee on parochial registration clearly demonstrated in the House of Commons of Great Britain that a number of endless litigations, which often resulted unsatisfactorily and disastrously to both parties, could have been avoided by a proper system of registration.

HEALTH DEPARTMENT OF THE CITY OF NEW YORK,
Office, No. 301 Mott Street.
BUREAU OF RECORDS OF VITAL STATISTICS.
New York,..................................187..

A TRANSCRIPT FROM THE RECORD OF DEATHS IN THE CITY OF NEW YORK.

Name of Deceased.	Date of Death.
....	....

Age of Deceased.	Condition.	Occupation.	Birthplace.
....	....	....	.. ..

How Long Resident in City.	Father's Birthplace.	Mother's Birthplace.
....	....	....

Place of Death.	Cause of Death.	Time from Attack till Death.
No.. ....Street. ....Ward.	....	....

Place of Burial.	Undertaker.	Medical Attendant.
....	....	....

SEAL.

A true copy,

....
Register of Records.

....
Secretary.

HEALTH DEPARTMENT OF THE CITY OF NEW YORK,
Office, No. 301 Mott Street.
BUREAU OF RECORDS OF VITAL STATISTICS.
New York,............ ....187..

A TRANSCRIPT FROM THE RECORD OF BIRTHS IN THE CITY OF NEW YORK.

Date of Birth.	**Name of Child.**	**Sex.**	**Color.**
....18....	....	....	....

Place of Birth.	**Name of Mother.**	**Maiden Name of Mother.**
No. ....St.	....	....
Mother's Birthplace.	**Name of Father.**	**Father's Occupation.**
....	....	....
Father's Birthplace.	**Name of Medical Attendant or Person who makes the Return.**	**When Recorded.**
....	....	....

SEAL.

A true copy,

....
Register of Records.

....
Secretary.

HEALTH DEPARTMENT OF THE CITY OF NEW YORK,
Office, No. 301 Mott Street.
BUREAU OF RECORDS OF VITAL STATISTICS.
New York,.................. ....187..

A TRANSCRIPT FROM THE RECORD OF MARRIAGES IN THE CITY OF NEW YORK.

Date of Marriage.	Full Name of Groom.	Residence.	Age.	Color.
................18....	....	No..........St.	......	....

Groom's Birthplace.	Name of Father.	Name of Mother.
....	....	....

Occupation.	No. of Groom's Marriage.	Full Name of Bride.	Residence.	Age.	Color.
....	......	....	No..........St.	......	....

Bride's Birthplace.	Name of Father.	Name of Mother.
....	....	....

No. of Bride's Marriage.	By whom Married, and Official Station of Person Solemnizing the Marriage.	When Recorded.
....	....	....

The persons authorized to solemnize Marriages by the Laws of New York are the following:

1. Ministers of the Gospel and Priests of every denomination.
2. Mayors, Recorders and Aldermen of Cities.
3. Judges of County Courts and Justices of the Peace.
4. Jews and "Quakers (or Friends)," in a manner agreeable to the regulations of their respective Societies.

Hence certificates of the solemnization of Marriages by Notaries, or by or before any other persons or officers than those above named, *are no evidence of such Marriages.*

....
Register of Records.

SEAL.

A true copy,

....
Secretary.

(Endorsement.)	(Endorsement.)	(Endorsement.)
HEALTH DEPARTMENT	HEALTH DEPARTMENT	HEALTH DEPARTMENT
OF THE CITY OF NEW YORK,	OF THE CITY OF NEW YORK,	OF THE CITY OF NEW YORK,
No. 301 Mott Street.	No. 301 Mott Street.	No. 301 Mott Street.
Transcript of Marriage.	*Transcript of Death.*	*Transcript of Birth.*

SEARCHES.

In addition to the transcripts, there were 627 searches made during the year from the Registers of Marriages, Births and Deaths for persons who were seeking information from them, and where it was considered unnecessary to furnish them with transcripts for the purposes for which they were desired.

TRANSITS.

There were 2,645 bodies allowed to enter and pass through this city during the year 1871.

It it is considered essential that the certificates relating to these deaths should be scrutinized or the causes known by the attachés of this Bureau previous to the entrance of bodies into this city, as by this means persons who may have died of diseases that might jeopardize the health of the city, or deaths which occur from injuries, accidents or violence without an official certificate from the proper authorities as proof of an investigation having been made, are not allowed to enter. Bodies frequently arrive in the neighboring cities having been sometimes conveyed through the country for several hundred miles, without any evidence as to the cause of death accompanying them, and are only detained when the proof of it is desired previous to their passage through this city. This shows how easy a matter it is to dispose of bodies which may have been foully dealt with, or those that may have died from infectious diseases, thereby disseminating contagion throughout the land. The certificate of a physician residing out of the State when it accompanies a body ought to have some official authentication that he is a practicing physician in good standing, as otherwise we are unable to determine whether the certificate is genuine or fictitious. If a permit is applied for to pass the body through this city of a person who dies from natural causes at a remote part of the country, and when the certificate of death does not accompany the body, the applicant is required to make an affidavit as to the correctness of his statement, unless it is certified to by a well known, responsible citizen of this city. The delay that was formerly experienced in passing bodies through this city now seldom occurs, as undertakers, express companies and transportation agents who may have charge of them, take more pains in ascertaining the required particulars than heretofore. In consequence of there being several cities and towns in the United States where there is no record kept of Marriages, Births or Deaths, and other places where the records are faulty or imperfect, a number of people are necessitated to copy from the "Register of Bodies in Transit," kept in this Bureau of bodies that have passed through this city for interment, what particulars it contains as evidence of such death for life insurance and other purposes.

☞ SEE THE BACK OF THIS APPLICATION. ☜

The permit must be obtained in every case previous to the passage of the body into the city of New York.

APPLICATION FOR A TRANSIT OR DISINTERMENT PERMIT

FROM BUREAU OF RECORDS OF VITAL STATISTICS, HEALTH DEPARTMENT OF THE CITY OF NEW YORK.

PERMISSION IS DESIRED to pass through the City the remains of

Name .... Age ....
Occupation ....
Place and Date of Death ....
Cause of Death .... Place of Birth ....
Now at .... (Arrived by what Route) ....
For interment at .... (By what Route) ....
How Certified ....

Name and Address } ....
of Applicant, } ....

NEW YORK, (date) 18

(BACK OF APPLICATION.)

No Disinterments are permitted in this city between May 1st and October 15th, except in cases of bodies deposited in RECEIVING VAULTS, and then only upon their being enclosed in METALLIC AIR-TIGHT COFFINS. The latter rule applies also to bodies disinterred outside of New York and requiring transit through the city.

DISINTERMENTS.

The number of permits issued during the past year to disinter bodies that were buried in this city amounted to 183. These were of persons whose bodies were placed temporarily in receiving vaults or removed from cemeteries in conseqence of the opening or extension of streets and avenues through them, or their alteration, on account of the growth of the city, to lots for building purposes. The mode of disinterment is by application similar to that required for a transit permit, and if applied for at the proper season of the year, there is no delay in obtaining it.

STILL BIRTHS.

The number of children born dead and registered in this Bureau during the past year was 2,276, an increase of 22 over the previous year. 198 of these certificates were received from the Coroners, 69 of which were of abandoned infants found in the streets, etc., whose parentage was unknown; the balance of the certificates were received from physicians and midwives. These cases are reported to this Bureau almost exclusively by undertakers or persons who desire permits for their burial, as the law is rigid in compelling them to obtain burial permits from this office previous to the interment of any human remains. By this means it will be observed that nearly all the returns of still born infants of an advanced fœtal age are received, while the returns of still births of the earlier periods of utero-gestation are imperfect, the reasons being that the fœtus is so small that various surreptitious means are resorted to for its disposal or destruction, particularly when it is of illegitimate parentage or when the birth is produced by artificial means. It is, therefore, reasonable to suppose that infanticide or fœticide is of much more frequency in the early months of fœtal existence, notwithstanding the returns received in this Bureau are considerably less than in the advanced period, as the after consequences are not so dangerous and the chances of avoiding detection are greater.

The principal causes assigned for these births are the following, which I have selected and arranged according to their numerical frequency, so that the interested portion of the medical profession might bestow upon this subject a careful consideration and suggest some method, if possible, for its prevention. Difficult or protracted labor; Accidents, (such as Falls, Frights, &c.) Unnatural presentations (such as Breech, Funis, Placenta Prævia, Foot, &c.); Sickness of mother (Uræmia, Convulsions, Remittent Fever, Phthisis, malarious diseases, Liver diseases, Anæmia Asthenia, &c.); Funis disarrangements, (compression on cord and around the neck, &c.); Placental diseases (Fatty degeneration, detached placenta, &c.); Asphyxia, Hemorrhage (Flooding); malformation of child (Hydrocephalus, Spina Bifida, &c.); Uterine diseases (Cancer, Metritis, Inertia, &c.); Atelectasis, Constitutional disease of parents (Syphilis Scrofula, &c.) In the great majority of cases no cause whatever is attributed to the birth. It is, notwithstanding, reasonable to conjecture that a great many are due to the attendance of uneducated old women practicing among the poorer class, who often place too much reliance on them, and who have not the means to procure the services of skillful accoucheurs. Several are also ascribed to villainous quacks and abortionists, who, without hindrance, boldly circulate their nostrums for this particular object, and who continually parade themselves with impunity before the public, by advertisements in the newspapers, to carry on their nefarious business.

The establishment of hospitals or asylums for this class of females, under the supervision of humane individuals and the care of experienced regular physicians, would tend, in a great measure, towards rescuing these unfortunate women from the hands of unscrupulous abortionists. Such institutions I hope to see soon in operation, for I perceive no other means for the eradication of this atrocious evil from our midst, while the law of the State fails to prevent it.

N. B.—No Fœtus must be interred, or disposed of in any other manner, without a Permit therefor having been obtained from this Bureau, such Permit to be granted upon the presentation of the proper return.

RETURN OF A STILL BIRTH.

To the Bureau of Records of Vital Statistics,
HEALTH DEPARTMENT OF THE CITY OF NEW YORK,
301 Mott street, New York.

Name of Mother..
Name of Father..
Residence of Mother..
Period of Utero-gestation..
Date of this Birth..
Sex.......................................**Color**..
Nativity of Mother.................................**of Father**..................................
Cause of Dead Birth (if known)..
Signature of Medical Attendant..
Residence* do. ....
Name of other person making this Return..
Residence do. do. do. do. ....
Date..187
Undertaker..
Place of Burial..

RETURN OF STILL BIRTHS

Showing the Nativity of Parents, and the Period of Utero-Gestation, for the twelve months ending December 31st, 1871.

MONTHS.	TOTAL.	SEX.			NATIVITY OF						PERIOD OF UTERO-GESTATION.										
					FATHER.			MOTHER.													
		Male.	Female.	Not Stated.	Native.	Foreign.	Not Stated.	Native.	Foreign.	Not Stated.	1st Month.	2d Month.	3d Month.	4th Month.	5th Month.	6th Month.	7th Month.	8th Month.	9th Month.	10th Month.	Not Stated.
January	169	103	64	2	33	124	12	44	119	6	..	1	2	5	7	12	19	24	91	..	8
February	169	93	76	..	36	128	5	38	127	4	..	2	4	1	4	18	20	21	92	..	7
March	193	118	71	4	31	144	18	47	132	14	..	1	5	8	6	20	19	23	104	3	4
Total 1st Quarter	531	314	211	6	100	396	35	129	378	24	..	4	11	14	17	50	58	68	287	3	19
April	179	98	81	..	38	130	11	52	123	4	..	..	..	5	11	25	23	20	92	..	3
May	188	111	75	2	43	129	16	48	127	13	2	..	2	4	10	21	28	28	87	..	6
June	207	118	87	2	44	148	15	42	153	12	..	..	3	6	16	20	31	34	90	..	7
Total 2d Quarter	574	327	243	4	125	407	42	142	403	29	2	..	5	15	37	66	82	82	269	..	16
July	200	109	91	..	38	150	12	42	153	5	..	..	..	4	5	27	31	28	99	..	6
August	213	116	96	1	48	149	16	45	156	12	..	1	5	10	12	23	31	32	91	1	7
September	188	104	84	..	33	147	8	37	148	3	..	..	3	5	7	20	30	20	100	..	3
Total 3d Quarter	601	329	271	1	119	446	36	124	457	20	..	1	8	19	24	70	92	80	290	1	16
October	203	110	93	..	30	159	14	48	147	8	..	..	3	5	15	21	28	24	103	..	4
November	175	97	77	1	33	133	9	46	125	4	..	1	2	1	9	26	21	18	91	1	5
December	192	109	82	1	41	136	15	51	133	8	..	1	..	8	4	11	24	43	98	..	3
Total 4th Quarter	570	316	252	2	104	428	38	145	405	20	..	2	5	14	28	58	73	85	292	1	12
Total for 12 Months	2276	1286	977	13	448	1677	151	540	1643	93	2	7	29	62	106	244	305	315	1138	5	63

NUMBER OF STILL BIRTHS REPORTED FOR THE PAST THREE YEARS

In Each Month of Utero-Gestation.

	Period of Utero-Gestation.										
Years.	1st. Month	2d. Month	3d. Month	4th. Month	5th. Month	6th. Month	7th. Month	8th. Month	9th. Month	10th. Month	Not Stated.
1869............	1	5	12	50	122	193	334	28	1033	15	167
1870.	2	2	14	51	114	231	319	275	977	9	187
1871...........	2	7	29	62	106	244	305	315	1138	5	63
Total.......	5	14	55	163	342	668	958	873	3148	29	417

Very respectfully submitted.

JOHN T. NAGLE, M. D ,

Deputy Register of Records

"C."

REPORT

OF THE

SANITARY PERMIT INSPECTOR.

SANITARY PERMIT BUREAU, HEALTH DEPARTMENT,

NEW YORK, March, 1872.

COL. EMMONS CLARK, *Secretary:*

SIR: I respectfully submit the following report of the proceedings of this Bureau for the past year.

There have been granted by the Board and issued by this Bureau 834 permits. In each case an examination has been made to ascertain whether the requirements of the Sanitary Code are fully complied with, and the result of such inspections have been generally satisfactory.

The Board has denied 410 applications for permits, but in some cases the persons have continued business notwithstanding such denial. In the weekly communications of this Bureau to the Board all such cases have been reported, and proceedings have been instituted by the Board against the offending parties.

On the 15th day of November, the Board passed a resolution revoking all permits before granted for the occupation of cellars as human habitations or as places for lodging or sleeping, said revocation to take effect from and after the 15th day of December, 1871. The Sanitary Permit Inspector was directed to serve, or cause to be served, a notice of revocation upon each person holding a permit for the occupation of a cellar as above, and to furnish to the Board proof of service by affidavit of the person making the service. In compliance with this order notices were printed of which the following is a copy:

SANITARY PERMIT BUREAU,
HEALTH DEPARTMENT,
No. 301 Mott St., New York, 1872.

To...

SIR: At a meeting of the Board of Health of the Health Department of the City of New York, held on the 15th inst., it was Resolved, That all permits heretofore granted by the Board for the occupation of any cellar as a human habitation, or a place of lodging, or sleeping, be and the same are hereby revoked, said revocation to take effect from and after the 15th day of December, 1871.

You are hereby notified that you must vacate cellar of premises No................ street, on or before the above mentioned date.

Should you fail to obey the requirements of the Board, you will be liable to arrest, fine or imprisonment.

A copy of this notice was served upon each person holding a permit to occupy a cellar by Inspectors assigned to this Bureau, and the affidavits of service in each case are on file in this office.

Of the permits which have been granted or denied by the Board, a complete record is kept at this office, in such a manner that an immediate reference can be made to any case. The original applications for permits are numbered and duly filed.

Persons receiving permits are presented with a copy of the law, for the better understanding of their privileges and duties under it. When an application for permit is denied by the Board, a printed notice of such denial is sent to the person making the application. But in many cases the cause for denial being of minor importance, parties remedy the defect in their premises, or in the mode of conducting their business, and upon a second application a permit is granted by the Board.

A large number of permits have been issued to builders to occupy certain portions of the streets for their building materials, and to persons to cart manure from stables. There has been a considerable increase in the amount of business transacted by this Bureau during the past year.

Respectfully submitted.

C. H. COOPER,

Sanitary Permit Inspector.

"D."

REPORT

OF THE

INSPECTOR OF STREET CLEANING.

BUREAU OF STREET CLEANING, HEALTH DEPARTMENT,
301 Mott street, N. Y., March 30, 1872.

To the Secretary of the Board of Health:

SIR: I have the honor to submit the Second Annual Report of this Bureau. By section 17, article 16, chapter 574, of the Acts of the Legislature, passed in 1871, transferring the supervision of street cleaning from the Health Department to the Street Cleaning Commission, this Bureau has been materially restricted in its operations.

The regular work performed in accordance with the stipulations of the contract for street cleaning, has been subject to no variation, but the extra cleaning, for which the Health Department contracted at a given price per mile, in 1870, was let by the Street Cleaning Commission for 1871 for a definite sum per month, viz., $30,000. Embarrassments in the financial department of the city government occasioned delay in the payment of the accounts of the contractor, and furnished an excuse for not meeting the demands of the public for cleanliness of the streets.

The head of this Bureau has profited by his position to communicate with the municipal authorities of London, Paris, Berlin, St. Petersburg, Vienna, Marseilles, Bordeaux, Liverpool, Manchester, Dublin, Belfast, Rome, Trieste and Bristol on the subject of street cleaning; and though little practical information has been elicited, the acknowledgments of the Bureau are due for universal civility and a cordial acquiescence with its desires. The same obligation is due and thanks are hereby tendered to the Mayors of Philadelphia, Boston, Baltimore, St. Louis, Chicago, Cincinnati, San Francisco, Cleveland and Richmond, and to our Consuls at the different towns of importance in Europe. No opportunity for obtaining information has been neglected, but the authority for its application has been wanting.

The streets being the common property of the whole people, and intended for convenience of inter-communication, and the facility and comfort of the same being greatly enhanced by cleanliness, present something more than a simple sanitary question for consideration. The Legislative Department has amply provided for it, but there has been a decided failure in the execution of the provisions. Ordinances exist for the separation of garbage and ashes, and the inhibition of deposits of filth and kitchen refuse in the streets, the non-enforcement of which guarantees immunity to offenders.

As far as the Board of Health is concerned, it must be held blameless of the defects of civic cleanliness, so generally criticised, the contracting parties to the agreement for cleaning the public streets of the city being entirely independent of it, whilst the contract itself, in its specifications, is wholly insufficient to procure or enforce the quantity or quality of street cleaning demanded by the public. Under the contract the most filthy streets, in what are known as the tenement house districts, are cleaned only once a week, notwithstanding the recognized fact that an overcrowded population, cramped in single apartments, destitute of proper vessels to receive slops, will unhesitatingly discharge their garbage and kitchen refuse into the streets and gutters, offending the sight, touch and olfactories. More frequent cleansing, with a proper exercise of authority, would induce an increased self-respect and cause the indigent and ignorant tenement dwellers to desist from defiling the streets with garbage, filth and dirt.

Under authorization of a resolution of the Board, there was served a printed notice on the occupants of every house in the city, requiring them to separate garbage from ashes, and keep them in separate vessels, also requiring the contractor to remove them in different vehicles. Compliance was not generally enforced, and a very limited number of citizens acted upon it voluntarily.

The kind and character of street pavements are an important consideration in the successful cleaning of the streets. No excuse can be offered for the continuance of the cobble-stone pavement in a great commercial and wealthy city like New York. The oval form and smooth surface of the stones unite to render them unfit for the purpose. They present points of contact instead of the adjustment of broad surfaces, which render them liable to continued displacement by the operation of passing vehicles bearing unequally upon different parts of the stone and destroying its connection with those adjacent, increasing the inequalities of surface, furnishing receptacles for water and mud, thus interfering with the proper cleaning of the streets as well as travel over them, whilst the intervening spaces furnish ample supply of earth for both mud and dust. A great variety of pavement has been offered to the public, but each has its peculiar objection. That appearing to offer the least is block granite, so arranged as to furnish broad surfaces of contact upon a properly prepared bed or substratum of macadamized stone.

A very great impediment to keeping the streets in a proper cleanly condition is the immunity enjoyed by builders encumbering the streets, and by contractors breaking pavement for water and gas pipes and sewer connections; and imperfectly replacing the pavement and leaving debris behind them. The laxity shown to these offenders against the city ordinances is a matter of general comment. Street cleaning, in a comprehensive aspect, necessarily involves the question of pavement, rigid enforcement of regulations and adequate authority so localized as to definitely attach responsibility.

A considerable item in the city budget is credited to the payment of contracts for the maintainance of cleanliness in the streets, and with the object of proffering a basis, harmonizing economy and cleanliness, a comparison of costs for cleaning is instituted with neighboring and other cities. Baltimore, with a population (according to the last census) of 267,354, expended during the year ending December 31st, 1871, under the supervision and management of the Board of Health, the sum of $192,685 for street cleaning; equivalent to 72 cents per capita of the population. Boston, with a population of 250,562, spent under the direction of its Health Department, $328,652, for maintaining cleanliness in the street, a per capita of $1.31. New York for the same time, with a population of 942,292, expended, under a contract with the municipal authorities, $498,500, minus $20,000 paid by the contractor for the street sweepings and manure=$478,500 equivalent to 50¾ cents per capita: for extra cleaning ordered by the street cleaning commission, from the 15th of March, 1871, to the last of June, 1871, $105.000, and from the first of July to the last of September, $86,000=$191,000, or 20¼ cents a head: total, 20¼ 50¾=71 cents; while Paris, so noted for the superiority of its pavements, only pays about 16⅜ cents a head on the estimate of its population; the proprietors of houses being responsible for cleanliness in front of their premises, though the work is done by contract, and the contractors are compelled to remove dirt, debris, etc. In Stuttgard and Strasbourg, the proprietors of houses do their own sweeping to the middle of the street, the dirt and filth being removed by city contractors. The same is done in many other cities; and it will be observed, that there exists no settled policy or uniformity of action in the matter. The city of London is not satisfied with one system, for the city proper, with a population less than that of Boston, does its own sweeping; the parishes of Westminster, Tower Hamlets, Finsbury, Marylebone, Lambeth, Southwark, etc., with its population of over three and a half millions, have their scavengering done by contract under the supervision of a bureau organized for the purpose.

The existing contract for street cleaning requires that all the paved streets and avenues and all lanes and alleys and all gutters, wharves, piers and heads of slips shall be swept once a week unless prevented by frost or snow; Broadway, from the Battery to Twenty-sixth street, every night; Broadway, from Twenty-sixth to Fifty-ninth street; Fifth avenue, from Waverly Place to Fifty-ninth street; Bowery, Chatham street and Park Row, three times a week; Fourth avenue to Thirty-second street, Sixth avenue to Forty-second street, Eighth avenue to Forty-second street, State, Whitehall, Wall, Cortland, Fulton, Chambers street, Maiden Lane, Grand street, East of Broadway, and Canal street, West of Broadway, twice a week. All ashes, garbage, rubbish and sweepings of every kind are to be removed every twenty-four hours—Sundays excepted.

Under a special contract made by the Street Cleaning Commission, for the period extending from March 15, 1871, to October 1, 1871, as a precautionary Sanitary measure for tenement house districts: 10 7-32 miles were cleaned in the First Ward, 6 3-32 in the Second, 8½ in the Third, 7 9-32 in the Fourth, 12¼ in the Fifth, 6 3-64 in the Sixth, 10 40-64 in the Seventh, 12 36-64 in the Eighth, 9 47-64 in the Ninth, 9 29-64 in the Tenth, 13 10-64 in the Eleventh, 8 10-64 in the Thirteenth, 833-64 in the Fourteenth, 2 22-64 in the Fifteenth, 13 52-64 in the Sixteenth, 10 29-64 in the Seventeenth, 10 39-64 in the Eighteenth, 2 28-32 in the Nineteenth, 7 31-64 in the Twentieth, 6 39-64 in the Twenty-first and 7 15-64 in the Twenty-second Ward—total 184 1-64 miles per week; that is to say, certain named streets were cleaned once, twice or three times additional per week, making the total weekly work 184 1-64 miles.

A bill is now before the Legislature which contemplates the cancelling of the existing contract, and which will confer upon the Police Department the necessary power to clean the streets, and to remove dirt and garbage from the city. Should it become a law, the evils long complained of will doubtless be substantially removed, and New York will secure the necessary cleanliness of the streets at a fair and reasonable expense to its tax-payers.

Respectfully submitted.

THOMAS COTTMAN,

Inspector of Street Cleaning.

"E."

REPORT

OF THE

ENGINEER.

HEALTH DEPARTMENT, ENGINEER'S OFFICE,
NEW YORK, March 13, 1872.

EMMONS CLARK, *Secretary, etc.:*

SIR: In compliance with the order of this Department, of the 22nd ultimo, I submit the following Report:

Regarding the various constructions and operations which are held to fall under my official notice in this communication, there is of the greater portion of them little, if anything, further to be submitted, either in description or recommendation, beyond that which has already been presented to the Department in previous reports.

As drainage, sewerage and sewage, however, are so intimately and so directly connected with the sanitary condition of a city, I conceive it appropriate to again refer to these subjects, with such additions as extended observations and considerations have induced.

RAILROAD UPON FOURTH AVENUE.

In the matter of the occupation of the Fourth avenue, from Forty-fifth street to the tunnel at Yorkville, by the New York and Harlem, the New York Central and Hudson River, and the New York and New Haven Railroad Companies, there has as yet been no further remedial measures instituted to protect the lives and limbs of persons in transit, across or in line with this avenue, beyond those noted in a previous report.

The New York and Harlem Railroad Company, the principal in this matter, inasmuch as the other companies are merely lessees of the privilege of traversing this roadway from Forty-second street to the junctions of their several roads, expresses, through its president, its conviction of the necessity of a remedial change in the manner of operating its road, and its willingness to effect one, not only between the points first referred to, but from thence to the Harlem river.

Numerous citizens residing near to the localities referred to, have associated themselves for the purpose of seeking to effect an entire change in the grade of the roadway, from Forty-second street to the Harlem river; and as the Company objects to some of the requirements of these parties, the whole matter has been presented to the Legislature and all parties are awaiting action thereon.

The demands of a large majority of the citizens are, that the roadway for its entire length from Forty-fifth street to its entrance at the tunnel at Yorkville, shall be wholly depressed where not now depressed, as from Sixty-sixth street to Seventy-first, and again from Eighty-eighth to Ninety-fourth street, and arched over; and to obtain the required depth of depression it will be necessary to commence a depression of the road-bed within the depôt at Forty-second street of about eight feet, which would involve an extensive reconstruction of the depôt and of the adjoining buildings, sheds, &c.

The Company on its part objects to any plan that involves an alteration of its depôt or structures, or that shall involve a depression of the numerous side tracks incidental to its operations, and it proposes to retain the present grade of the road from Forty-second street to Forty-seventh street and to erect iron bridges at these and the intermediate streets, for the facility of transit across the Fourth avenue; but from above Forty-seventh street it proposes to commence to depress its roadway, to meet the requirements of the remonstrants, until a proper depression is obtained, and from Forty-eighth street to the entrance at the tunnel to erect iron bridges across the roadways wherever required.

From the exit at the tunnel to Harlem river it further proposes to reconstruct the roadway for the entire length, upon a grade and elevation which will keep it so far above the grade of the avenue as to admit the passage of persons and vehicles beneath it.

In the conflict of views and purposes it is not improbable that the interests of both the citizens and the Company may be prejudiced, either by the adoption of imperfect measures, or the non-adoption of any; in which case it will be my province, under the expressed direction of the Department, to bring the matter again to its consideration.

STREET CLEANING.

As the Common Council, on the 19th of February, ask the cooperation of this Department to aid in the effective cleaning of the streets of this city, I am authorized to submit my views in connection with this essential element of a sanitary condition of a metropolis.

In the pursuance of my profession, I have occasion to travel through the principal streets of the city below 57th street, and have frequent opportunities of observing their condition, and the result of my observations leads me to the following conclusions:

1st. The surfaces of the piers encompassing the city are seldom cleaned, except by individual occupants, and then very rarely and insufficiently.

2nd. Ashes and garbage are infrequently and irregularly removed, and, as a consequence, the vessels in which they are deposited are frequently overcharged and the contents scattered and washed over the sidewalks and streets and into the gutters, and when the party whose duty it is to remove these substances essays to do it, he appears to entertain the opinion that his duties are confined to the removal of the contents of these vessels alone; that which may have fallen out of them, from being overcharged in consequence of his neglect of emptying at a proper time, he holds to have passed beyond his cognizance: hence the operation of removal is insufficiently performed, and as a result, there is allowed to be accumulated a mound of ashes, garbage and fermentable liquid, which is not only offensive to propriety, but is positively obnoxious to health.

As an illustration of the operation referred to, I cite the case on the S. E. corner of Broadway and Beaver street, which for several years past has presented an occupation of the sidewalk in surface, a mound of filth in volume, and an intensity of obnoxiousness which it is safe to declare, has never been approached in any city in any portion of the world.

3rd. There has not been, in any contract, a proper provision regarding the removal of stones which have been displaced from the pavements, or dropped in transit; and, as a consequence, whilst it has not been the written duty of any party to remove these encumbrances, the citizens at large have been subjected to the danger of the loss of life and limb by their vehicles coming in contact with them.

It is not creditable that in a metropolis like this that a stone dropped in any of the principal streets is allowed to remain there until it is worn away by the attrition of the wheels of the vehicles passing against it.

4th. The provisions of the present and of previous contracts have not covered the requirements in the matter of the deposit of earth, mortar, &c., in the streets, which the contractors have refused to consider as legitimate street sweepings, and which the civil authorities have not required to be removed, either by the contractor or by the parties who have violated an ordinance in using the public streets as dumping grounds. Further, in a contract between the city and the contractor, where it is written that all the streets of the city, within certain boundaries, shall be cleaned at frequent and stated intervals, I cannot see with what propriety periodical sums in full, have been paid to the contractors, whilst there are many parts of streets in which there has not been even an attempt at cleaning them, and in others, where the cleaning has been so superficial as to leave hillocks of earth, coal dust, &c., which impede the transit of vehicles, absorb filth and emit insanitary exhalations of miasm.

Finally.—As it is apparent that there is a very great insufficiency in the number of ash and garbage carts to remove these materials, independent of the propriety of their being removed in all cases before 9 A. M. in Summer, and 10 A. M. in the Winter, it occurs to me that it would be well that all the dirt carts should be employed as ash and garbage carts in the morning of each day, and that when the ashes and garbage have been removed, that all the carts should be then employed in the cleaning of the streets.

DRAINAGE.

Referring to my report upon this subject of the past year, for such elements and details as it is unnecessary to again recite, I submit:

1st. That the geological construction of this island, in consequence of its bed of rock, is such as to involve innumerable pools and marshes, the former comparatively quiescent and frequently stagnant; and, inasmuch as the latter rest upon a substratum of rock, their moisture cannot be absorbed by gravitation in the earth, and as a consequence they are evaporated in miasm.

2nd. That the grading of avenues and streets, as now practiced, without making due provision for the flow of the water from intercepted water-courses and the adjacent surfaces, is adding to the evil by increasing the number of these pools and marshes, and as this evil is being daily augmented, it is one that demands the immediate interposition of the department, either by its prerogative or by such municipal action as will preclude the practice hereafter.

3rd. That when the proper means are taken to allow this water to flow, that the culverts and drains should be constructed with a view to the utmost limit of endurance, as in the event of the arrest of their operations by dilapidation or crushing when covered by structures, their inoperation would cause infinite damage, disease and cost.

SEWERAGE.

In addition to the remarks upon the subject as presented in my last report, I submit the following:

Connecting Drains to Sewer.—The connection of the soil and waste pipes of dwellings are made through brick drains laid in cement or mortar, or earthen pipes with insufficient faucets and packing, and frequently there is a common or single connection for several dwellings.

Soil Pipes.—In the setting of these pipes not only are their joints very frequently insufficiently made, but the pipes from want of sufficient support recede from their connections, leaving fissures through which the gases of the sewage escape into a building; added to which, the traps have such little flexure that there is an insufficient head of water presented to resist the permeation of sewer gases through them when subjected to a current of air, as when the mouth of the sewer is exposed at low water to the impact of a fresh wind.

So positive and so manifest is this operation, that in all portions of the city where a street sewer is common to the refuse matter from gas-houses, that the fact of low water in connection with a fresh wind in the direction of the sewer, can be detected even to the very centre of the city; so offensive was the emanation of sewer exhalations through the soil pipe of the dwelling occupied by the writer, that he was compelled to place a second trap in the soil pipe in order to increase the resistance of the flushing of it.

The traps have a depth of water or resisting medium of about 1.⅞ inch, which presents a resistance of 1.875 ÷ 27.67 (*inches of water*=1 lb.) =.0677 lbs. which, for a square foot, is equal to 9.75 lbs., or equivalent to a velocity of wind of 43.5 miles per hour, or that due to a "high wind" or gale; consequently at this pressure the gases from the sewer are driven through this slight obstacle in a soil pipe, and from thence escape into the interiors of buildings.

There is another operation of the elements by the agency of which the traps in soil and waste pipes may become wholly inoperative; thus, when a leader or the leaders from the roof of a building lead into the drain common to it and the soil and waste pipes, a full charge of a leader by the flow from a heavy shower of rain, it being superior in the height of its column to that of the traps of the soil or the waste pipes, will exhaust all pipes and traps connecting with it, and consequently these pipes will become the means of open communication between the sewer and the rooms or space into which they lead, until they are again flushed with water, which, even in an occupied dwelling, may not occur between 10 P. M. and 8 A. M., or after an interval of 10 hours, and with an unoccupied building this communication may remain open for months and years.

The sewers, as constructed, afford no escape to such exhalations, as their specific gravity is too light to preclude their gravitation to the outlets at the rivers; added to which these outlets are from three to four feet below the line of mean high water, and, as a consequence, in streets such as Canal, Roosevelt, and many others that have but little ascent, the influx of the tide fills them to such an extent and produces such a pressure (1 lb. per square inch for 26.672 inches of height) that the only escape for their foul air and gases is through the imperfectly fitted man-holes in the streets and imperfectly flushed or inoperative traps to buildings; consequently the noxious air of our sewers is always present, to avail itself of any fissure or opening that incompleteness of construction, negligence of operation, the flow of the tides, or severity in the weather may offer.

If the merchandise in our stores and warehouses was affected by the imperfections of this system, so as to depreciate their value but an infinitesimal part, the tax would not be borne, because the effects would be seen and understood; but so long as the effect operates only in the insidious shape of ill health, disease and death, it is not recognized and will not be encountered by the public until it has decimated our population.

The City Sanitary Inspector has lately submitted to the Department a communication upon the subject of defective house drainage and sewerage, which so clearly sets forth the character of existing constructions as to seem to render any additional reference to them upon my part as unnecessary, were it not the subject is one of such vital importance that it should be set before the public with all the force and with all the frequency necessary to excite its attention and action.

In support of his views, and of the general and important subject of the connection of dwellings with the street sewer, I submit—

1st. That brick or stone drains, laid in mortar, should not be allowed, inasmuch as the vaporous exhalations of sewage disintegrates the mortar.

2nd. That the connections should be made with vitrified earthen pipes, with long faucet ends, and they hermetically united.

3rd. That there should be a connection with a sewer for every fifty feet front of dwellings, and in hotels, manufactories and like constructions, that each line of water-closets should be directly connected with the sewer.

4th. That inasmuch as the present form of soil pipe traps is of insufficient depth in its flexure to restrain the passage of sewage vapors, and as the water therein is liable to be sufficiently evaporated in dry weather to open the communication with the soil pipe, that henceforth, that the flexure of all traps shall be increased to five inches, in order to offer a greater restriction to the permeation of air through them from the inflation of sewers by wind, tides, &c.

5th. That all cess-pools connecting with a sewer should be trapped.

6th. That all soil pipes should extend up and through the roofs of buildings, in order to afford a vent the least objectionable to the exhalations of the sewers and soil pipes.

7th. That all leaders of water from the roofs of high buildings should be connected directly with the sewer, without the intervention of a trap, in order to allow the gases of the sewer to be led off through them to the air above.

MARKETS.

It is to be regretted that there is occasion to again submit to the consideration of the Department the condition of Clinton, Fulton, and Washington Markets.

The shedding over of the sidewalks and the flooring over of the street gutters around these markets in obstructing the requisite ventilation and flow of water through the gutters, can fail not only to render them obnoxious to health, but, in the event of an epidemic, they would become its ready and effective fosterers.

West Washington Market, as it is termed, covers an area of 225,300 square feet or 5.1-6 acres upon which are erected wooden shanties or sheds, the intervening spaces or cartways are covered simply with boards, and as there is no grade of the surface and no means of leading off the drippings and washings from the mass of filth and putrescent matter that is strewn there, it is allowed to sink into the ground, to be exhaled therefrom through the interstices of a decayed wooden flooring; unfortunately, this is not the only evil attendant upon the continuation of this unbounded nuisance; the sidewalks and streets surrounding, intersecting, and adjacent to it for several hundred feet are encumbered with wares and articles of all kinds, whereby both streets and sidewalks are so obstructed as to render the passage of either vehicles or foot passengers a matter of great difficulty, great delay, and often of great risk to life and limb.

If it should be argued that the encroachment of sidewalks and streets as practiced around our markets is not a matter within the province of this Department, I submit that when this encroachment reaches to an extent that involves a delay in the transit of cars and vehicles that subjects passengers thereon to a prolonged exposure to cold, without bodily motion to repel the effects thereof, and drivers to a prolonged exposure in wet garments, that means calculated to remove such exposures are clearly within the power of this Department; and, when the occasion of such encroachments of the streets are examined into, it will be found that they mainly consist in the constructions to accommodate oyster, cake, soda water, pie, and tin-ware shops; newspaper, book, peanut, and segar stands; and the peddling of shoe-strings, crockery, shoe-brushes, &c., &c., not one of which articles are legitimately connected with a family and provision market, and the venders of these articles enjoy the franchise of the streets without rent or taxes, to the prejudice of the entire community, in health, in obstructions to the operations of trade of all kinds, to the discomfort of foot and vehicle transit, and to the discredit of the civil authorities and our citizens.

In illustration of the utter neglect of the convenience and interests of our citizens, which has been practiced by our civil authorities in this matter of the occupation of sidewalks and streets around our markets, I have the authority of an occupant of one of these stands, that he values the right of it to exceed $10,000, and for which, upon investigation, it will be found that he pays a very inconsiderate interest; independent then of this loss of occupation of some neighbor's premises, there is a loss of time inflicted upon a large portion of the community by the encumbrance obstructing their transit at this point.

ENCUMBRANCES OF STREETS.

As a sanitary condition of a populous city is dependent in a very great measure upon the condition of its streets, and, consequently, upon the removal of all decaying animal and vegetable matter therefrom, the occupation of the streets by the structures already referred to, in covering over of the gutters, is further added to, by the total disregard of the necessary facilities in the proper cleaning of our streets and the freeing of the gutters; by permitting both to be occupied by articles of all kinds, so ponderous or cumbrous as to be free from the risk of being stolen, such as anchors, chains, blocks of marble, trucks, carts, sleds, steam-boilers, &c., &c., &c., all of which, as the contractors for the cleaning of the streets do not move aside when they are cleaning, become more or less the protection to *nuclei* of decomposing matter.

Under what view of the obligation of a citizen one can occupy from one quarter to one half of a public street for his own convenience, or how one wheelwright can be permitted to have thirty-three different vehicles, from a wagon to a truck, in front of his and his neighbors' premises, or how sleds are permitted to occupy streets and sidewalks during the entire Spring, Summer and Autumn, I am at a loss to understand; and when it is considered that this Department has authority to interpose its broad shield between the existence of any construction or encumbrance that may, or does endanger the life of a citizen, I consider this subject as eminently deserving of its consideration and action thereon.

SEWAGE.

The manner in which the sewage of this city is discharged into its docks or slips, and the effect, both in a sanitary view and in the injury to the harbor, have been given in a previous report.

The results of such discharge from a city containing, in the day-time, more than one and a quarter millions of people, are too visible and too obnoxious to the senses, not to have engaged general attention, not to have elicited universal condemnation, and not to have engaged the consideration of the Department. It is not considered necessary, therefore, to again refer to them.

The problem under consideration is, can the objectionable results of this condition of the matter be ameliorated, and, if so, in what manner?

Eliminating such elements and conclusions, arrived at and presented by the extended and exhaustive manner in which this subject has been treated by scientists abroad, which are not applicable to this city and its requirements, I present the following:

The most valuable portion of sewage is held both in solution and suspension.

The valuable ingredients of sewage are its combined nitrogen, phosphoric acid, and salts of potash; the value of which, in the sewage of the city of London is estimated at about 4 cents per ton of sewage.

The average volume of sewage per inhabitant of this city is fully 105 tons per annum.*

The estimated value of the *excreta* of each individual in a mixed population of all ages and sexes is about $1.80 per annum.

According to the statistics furnished by the River Pollution Commissioners of London, each 100 tons of sewage of this city contains .0722 tons of solid matter in solution, and .0447 tons in suspension.

Human *excreta* requires to be diluted with water to render it available as a fertilizer to land, but when mixed with the greater volume of water consequent upon a system of sewerage like to that of this city, it becomes too diluted for agricultural purposes, as the limit of utility is fixed at about 25 gallons per individual, and the average annual flow of Croton water alone, independent of rains, is 80 gallons per head, per diem.

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*Area of water-shed below 110th street, computed at 8,420 acres, and rain-fall at 3 feet per annum, of which one-third only is estimated to be discharged into the sewers. Discharge of Croton water for the same district, deducting that consumed by steamers and steamboats, vessels, steam-boilers and evaporation, is computed at 70 millions of gallons per diem. Average population during the entire day, one million.

In England and upon the continent of Europe, the utilization of the sewage of cities and towns has occupied the attention of the public authorities, in the appointment of Commissioners and Boards, and Leibig, Ellis, Menzies, and many others, have also given the subject their valuable attention.

Of the objectionable effects of discharging it into a river, and of its value in agriculture as a fertilizer, there is no difference of opinion.

In cities and towns where the sewage has been deodorized and removed for utilization, the average mortality has very materially decreased, and although the system of deodorizing is not practicable or necessary in a riparian city alike to this, yet it is instructive to learn that the removal of sewage has a beneficial result in a sanitary point.

Each location of a city or town presents varying facilities or requirements according as they are inland, riparian, or maritime.

This city presents great facility, by its contour, to arrest its sewage at the embouchure of the sewers, whence it can be taken and transported elsewhere for utilization.

In consequence of the greater portion of the valuable constituents of sewage being held in solution and suspension, it is impracticable to separate them for removal by other means than that of filtration, which process in a riparian city, restricted in its confines, is too impracticable to be entertained.

Reviewing, then, these elements in connection with the circumstance that this is a riparian city, I submit,

1st. That it is unnecessary to entertain the reception and removal of the entire sewage of this city, both on account of its great volume, the labor involved in its removal and the impracticability of the ready and uniform disposal of it.

2d. That it is practicable to receive it into basins at its embouchure upon the river fronts, when the fluid portion can be allowed to flow out into the river and the solid portion removed for utilization.

3d. That the value of the arrested sewage would be much increased, and the volume of offensive matter flowing into the rivers would be much decreased, if the discharge from the basins was made to flow upwards through a reticulated diaphragm, whereby much that was held in suspension would be arrested, and that this diaphragm, being retained in position by hinges and sufficiently weighted, that, it upon becoming temporarily choked would relieve itself by the automatic operation of being forced up by its arrest of sewage, and when relieved, depressed by its own weight.

4th. That the sewage thus arrested in the basin would reach a volume of fully three millions of tons; that it could be readily removed, and that the value of it as a fertilizer to agriculture would go very far towards liquidating the cost of the necessary alterations and constructions.

The elements above given are reliable and the deductions practicable; the result however would be confined to an amelioration only of the evils involved, inasmuch as the evil effects of discharging so large a volume of sewage fluid into our rivers would increase as the population became extended and condensed.

The problem to be solved is, in what manner is it practicable to arrest the entire volume of that which is discharged from water-closets, separate from the general sewage of a city, so that it can be daily and conveniently collected and removed, thereby restricting sewage to house refuse and street washings, and having considered the matter I present the following:

1st. That henceforth the sewage from all dwellings or buildings, and from all street surfaces, should be received and discharged separately from that from water-closets and urinals.

2d. That all privies should be forthwith discharged of their contents and filled up, and that water-closets be substituted for them.

3d. That there should be laid in all the streets a suitable pipe into which the flow from all water-closets and urinals should be received separately from that of the ordinary and refuse sewage of a dwelling or building, provided that any existing sewer in the street should not have an area sufficient to accommodate the occupation of this pipe without an objectionable obstruction of it; but whenever the capacity of the sewer is sufficient to admit of such pipe then it should be laid within it.

4th. That it should be made obligatory upon the owners of all dwellings or buildings, in which there are water-closets or urinals, to lead the discharge therefrom directly to this street pipe.

5th. That the contents of this street pipe or main should be received into a basin at the river front of each two or more streets, as the case may be hereafter decided upon, and from thence removed and conveyed away for the purpose of agricultural fertilization.

Finally. Computing the entire sewage at 105 millions of tons per annum, as before shown (105 tons for each person) and taking the actual volume of solids in suspension therein, according to the observations, both of the River Pollution Commissioners of London and of myself, at an average of 26 grains per gallon, (imperial,) the volume of solids would amount to 6,240 tons; hence, there is annually deposited into the rivers surrounding this city no less a volume than 223,640 cubic feet of putrescent matter, to be borne away by the currents, and deposited upon the adjacent shores.

I have the honor to be,

Very respectfully,

Yours, &c.,

CHAS. H. HASWELL, *Engineer.*

"F."

REPORT

OF THE

ATTORNEY AND COUNSEL.

To the Secretary of the Board of Health:

SIR: The undersigned respectfully reports that from and including the 1st day of April, 1871, to and including the 31st day of March, 1872, he, as attorney, instituted 3,060 actions, ordered to be commenced by the Board of Health, for violations of law, ordinances, and for non-compliance with its orders, against the persons named (with the number designating each action) in schedule marked "A," in a detailed statement herewith submitted.

That many of the actions so commenced are still pending, awaiting compliance by defendants with the laws, ordinances and orders applying thereto, and others have been discontinued from time to time on due proof of compliance and on payment of the usual costs, with a portion of the penalty in some cases.

That within said time the total number of judgments rendered in favor of the department is 690.

These judgments are against the persons named in the schedule marked "B" in said statement, and executions have been duly issued against the defendants.

That schedule "C" is a list of actions and judgments in which the penalty and costs, or a portion of each, have been paid to and received by the undersigned, the amount received in each case being fully stated.

That such moneys, which include all costs, have been duly accounted for and paid over to the Board at the end of each quarter, as follows:

April, May and June, 1871,	$3.083.53
July, August and September, 1871,	3,238.06
October, November and December, 1871,	2,943.71
January, February and March, 1872,	1,516.63
Total	$10,781.93

That schedule marked "D" in said detailed report, contains a list of actions discontinued without the payment of costs by defendants. Some of these actions have been dismissed by the Court; others have been discontinued by order of the Board; others upon proof that they had been brought against parties not liable; others where process had been improperly served; others upon proof of compliance with orders in due time; and others in which defendants were found to be unable to pay any portion of the penalty after compliance.

That during said year, ending on the 31st of March, 1872, no actions have been commenced or judgments rendered against the Department.

Respectfully submitted.

A. J. VANDERPOEL,

Attorney and Counsel for Department.

New York, April 1, 1872.

"G."

REPORT

OF THE

COMMITTEE ON FINANCE.

To the Board of Health of the Health Department of the City of New York:

The Committee on Finance respectfully submit a report of the expenses of this Department for the year ending April 10th, 1872. The salaries of employés and other expenses for the months of October, November and December, 1871, were paid in part by the Comptroller, and are not included in this report.

SALARIES TO APRIL 1, 1872.

Commissioners	$21,833 24
Secretary	4,016 66
Attorney and Counsel	5,216 65
Engineer	666 66
Chief Clerk	2,916 66
City Sanitary Inspector	4,016 66
Register	2,916 66
Deputy Register	1,750 00
Sanitary Permit Inspector	2,816 66
Inspector of Street Cleaning	2,666 66
Auditing Clerk	2,600 00
Chemist	758 33
Health Inspectors	14,588 67
Assistant Health Inspectors	14,561 86
Clerk hire—Secretary's Department	11,058 81
Clerk hire—City Sanitary Inspector's Department	10,424 98
Clerk hire—Bureau of Records	12,840 00
Clerk hire—Bureau of Sanitary Permits	8,854 16
Clerk hire—Bureau of Street Cleaning	8,837 00
Janitor and Assistants	2,774 99
	$124,614 81

CONTINGENT EXPENSES TO APRIL 10, 1872.

Fitting up steamer "Metropolitan" for the transportation of small-pox patients to Hospital	$2,898 05
Supplies for steamer "Metropolitan"	1,388 83
Expenses of running steamer "Metropolitan"	1,784 17
Pay Roll of Vaccinating Corps	31,630 04
Pay Roll of Tenement House Corps	1,673 32
Pay Roll of Ambulance Corps	1,129 33
Vaccine Virus	8,856 42
Sundries, including petty expenses of Office	476 82
Ice	29 34
Furniture, Repairs, etc	889 95
Services of Notary and Stenographer	209 50
Coach Hire	104 50
Special, Clerical and Extra Services	300 00
Ambulances, Horses, Harness and Repairs	2,696 00
Officers' Badges	183 00
Postage and Revenue Stamps	100 00
Horse Keeping	130 50
Fuel for Office	50 00
	$53,529 77

STATIONERY AND PRINTING TO APRIL 10, 1872.

Stationery and Printing	$5,055 73
Advertising	62 95
	$5,118 68

DISINFECTING DEPARTMENT TO APRIL 10, 1872.

Chemicals and Disinfectants	$1,121 26
Horse Feed	547 91
Horse Hire, Keeping and Shoeing	352 75
Fitting up Disinfecting Depot	3,068 20
Sundries, Petty Cash Expenses, etc	302 46
Pay Roll of Disinfecting Corps	5,878 50
Wagons, Harness and Repairs	101 40
Purchase of Horse	275 00
Gas	70 80
	$11,718 28

RECAPITULATION.

Salaries	$124,614 81
Contingent Expenses	53,529 77
Stationery and Printing	5,118 68
Disinfecting Department	11,718 28
	$194,976 54

Respectfully submitted.

MAGNUS GROSS,
BENJAMIN F. MANIERRE,
THOMAS J. BARR,
Committee on Finance.

"H."

REPORT

OF THE

SANITARY COMMITTEE ON SMALL-POX,

AS IT APPEARED IN NEW YORK IN 1871, AND ON METHODS OF CONTROL AND PREVENTION.

The continued prevalence of small-pox, during the years 1871–2, added largely to the labors and responsibilities of the Board of Health. This disease became almost world-wide in its prevalence, and assumed in many places a very malignant type. The population of New York, comprising almost every nationality is peculiarly liable to the epidemic prevalence of small-pox, as the past history of the city establishes.

The most important facts in the history of this last outbreak, and the methods of prevention adopted by the Board are embodied in the accompanying reports.

The following report on the progress of the work of vaccination, and of the care of the sick, their apartments and clothing, was prepared by the City Sanitary Inspector, Dr. Moreau Morris in January, and submitted by the Sanitary Committee to the Board:

About the first of January, 1870, the Bureau of Sanitary Inspection became informed, through the increasing reports of cases from the medical profession and others, that small-pox was becoming again epidemic in its character. The Board of Health immediately increased the force of Assistant Health Inspectors, specially for the duty of offering free vaccination, by house to house visitation, to all persons needing that protection. This duty was continued until nearly every tenement house, public and parochial school had been visited, and the large number of about 100,000 persons had been vaccinated. This measure, in connection with the sanitary care of the cases as they occurred, had the effect of almost entirely suppressing the disease, so that, during the months of September and October, the number of reported cases reached the minimum, being as low as six per week.

During the year 1871, the number of cases known to have occurred in the city, by reports received at the Bureau of Sanitary Inspection, in connection with the number of patients received at the Small-pox Hospital, from other sources than the city directly, was 3,084. The official record of these is as follows:

ADMISSIONS TO SMALL-POX HOSPITAL FOR YEAR 1871.

From city,	1,781	
" Quarantine direct,	235	
Other places beyond city limits,	582	
Total,		2,498
Isolated and treated in the city,		484
Secreted, and first reported as dead, in city,		101
Total,		3,083

The total of deaths for the year, as recorded in the Bureau of Vital Statistics, was 805; therefore the percentage of deaths to all cases appears to be 26.10.

The percentage of deaths to cases treated at the Small-pox Hospital was 20.46, there having been 2,498 cases treated, and 511 deaths occurring thereat.

That there was a much larger percentage of deaths occurring among those isolated and secreted at their own homes in the city, is, beyond question, true; but, as no accurate statistics of the actual number of cases secreted and treated at their own homes can be obtained, it becomes impossible to arrive at positive proportions.

From the fact that so large a number (101) were reported as dead at their own dwellings, without medical attention in many instances, it must be inferred that concealment in close rooms, without proper ventilation or medical treatment, could not but result in a large death-rate.

The special methods of controlling and arresting the spread of this disease, as employed by the Health Department of this city, may be described under the following heads:

1st. *How information is received of the presence of contagious disease.*

Sections 122 and 123 of the Sanitary Code require that such information be promptly forwarded to the Bureau of Sanitary Inspection, as follows:

Section 122.—"That every physician shall report to the Bureau of Sanitary Inspection, in writing, every person having a contagious disease, and the state of his or her disease, and his or her place of dwelling and name, if known, which such physician has prescribed for, or attended for the first time, since having such a contagious disease, during any part of the preceding twenty-four hours; but not more than two such reports shall be required in one week concerning the same person; but every attending or practicing physician thereat, must, at his peril, see that such report is or has been made by some attending physician."

Section 123.—"That every keeper of any boarding-house or lodging-house, and every inn-keeper and hotel-keeper shall, within twenty-four hours, report in writing to the Bureau of Sanitary Inspection the same particulars in the last section required of any physician, concerning any person being at any of the aforesaid houses or hotels, and attacked with any contagious disease."

To facilitate prompt reports of such, the Board of Health have caused the following blank form to be prepared and furnished to the medical profession:

New York,................. ...187...

Report of Contagious Disease.

To Dr. Moreau Morris,

City Sanitary Inspector, 301 Mott Street.

Name of patient, ...age,............

Residence,............... ....Disease,........................

Condition of premises,..

....

....

Signature,... .M. D.

Residence,............ ....

2d. *The means employed in rendering persons unsusceptible.*

As small-pox appears to be the only contagious disease that it is possible to control by preventive means, the Board, in the absence of compulsory law, has adopted the method of offering free vaccination, by house to house visitation, to every person who may be unprotected. Medical Assistant Health Inspectors are appointed from time to time as occasion requires, to perform this service. During the year 1871, over 100,000 persons were vaccinated by these means. As to the value of vaccination as a means of protection, the almost unanimous opinion of the best informed members of the medical profession is, that, when carefully and successfully performed, it is a positive protection to the individual and our experience during the past year offers one of the strongest proofs of this truth, viz.: in the fact that, among all of those successfully vaccinated or re-vaccinated, none have fallen victims to this disease in any form, while numbers have been stricken with it, who refused to be vaccinated. This fact comes to our knowledge almost daily.

With reference to this successful protection, much may be attributed to the fact of using only fresh virus, while in an active condition, being almost from arm to arm—our practice being to use the virus selected from healthy infants only, *within twenty-four hours from the time of taking it from the arm.* From the difficulty of obtaining a sufficient quantity and a regular daily supply of bovine lymph, and from the fact that the limited supply obtained at one time gave no better results as a prophylactic, we now rely upon humanized lymph exclusively. The absolute protection afforded so large a number as our statistics show, is a convincing argument as to its inestimable value as a preventive.

The difficulty of always keeping a supply of fresh vaccine virus on hand is so great, that means should be provided by the State for a public institution, under the charge of the Health Department, for the cultivation of pure bovine or animal vaccine; and connected therewith, practical instruction should be given as to the best methods for its application.

The importance of having pure lymph, and uniform methods for its introduction into the system, cannot be overestimated. This operation, although comparatively simple, should form a part of the regular instruction of every medical student; for there are found to be as many different methods of application, almost, as there are medical men in the profession.

3d. *Isolation.*

The Board of Health is empowered by law to cause the removal of any person, sick with small-pox or contagious disease, to hospital, or place by it designated; therefore it has authorized its chief officer, in his discretion, to cause such removal whenever he deems it necessary, under certain regulations.

In pursuance of these regulations, unless it appears evident by surrounding circumstances that a patient sick with this disease can be *thoroughly* isolated, so as to protect the public from any danger from infection therefrom, he or she is at once removed to the Small-pox Hospital.

This is done by means of improved ambulances, specially provided by the Board, and under the charge of persons especially trained for that service.

Those persons isolated at their own homes are kept under the supervision of a Medical Health Inspector, who attends to the enforcing of the rules adopted by the Board, with reference to quarantine and sanitary care, leaving the regular medical attendant free to his special medical care of the patient.

The Board's officers, having only the duty of protecting the public from the spread of the infection, have no responsibility whatever in the medical treatment.

The details of the methods, as performed by the Bureau of Sanitary Inspection, with reference to the prevention and spread of this disease, are as follows:

Health Inspectors are on detail duty at the office daily. The moment a case is reported, an Inspector visits it and reports, through the nearest police telegraph station, to the office, giving the diagnosis and the fact whether removal to Hospital is necessary or not. If to be removed, the ambulance is at once dispatched and the patient removed. A member of the vaccinating corps is now sent to the house, and vaccination performed upon all the inmates; and also, every house upon that block and the face of the opposite block is visited, and vaccination offered to every inmate, informing them of the proximity of the disease. This rapidly secures, as far as possible, the protection of those who may have been exposed to the infection. This direct application seems to have had the effect of preventing any extended centres of infection from forming, and hence we find that the cases reported come from widely dispersed localities.

4th. *Means employed to destroy the poison.*

For this purpose various disinfectants are used. The following card of instructions is supplied for the guidance of those having charge of patients that may be isolated at their own premises, and is always left with the attendants by the Health Inspector in charge of the case:

"HEALTH DEPARTMENT,
"Office 301 Mott St.

"SANITARY REGULATIONS AGAINST SMALL-POX, SCARLATINA, AND MEASLES.

"Every case must be reported to the City Sanitary Inspector upon its first recognized appearance.

"*Care of patients.*—The patient should be placed in a separate room, and no person, except the physician, nurse, or mother, allowed to enter the room, or touch the bedding or clothing used in the sick-room until they have been thoroughly disinfected.

"*Infected articles.*—All clothing, bedding, or other articles not absolutely necessary for the use of the patient, should be removed from the sick-room. Articles needed about the patient, such as sheets, pillow-cases, blankets, or clothes, must not be removed from the sick-room until they have been disinfected, by placing them in a tub with the following disinfecting fluid:

"8 ounces of Sulphate of Zinc; 1 ounce of Carbolic Acid; and 3 gallons of water.

"They should be soaked in this fluid for at least one hour, and then placed in boiling water for washing. A piece of muslin one foot square should be dipped in the same solution and suspended in the sick-room constantly, and the same should be done in the hall-way adjoining the sick-room.

"Feather beds and pillows, hair pillows and mattresses, and flannel or woolen goods, require fumigation, and should not be removed from the sick-room until after this is done. Whenever a patient is removed from the sick-room, notify the Bureau of Sanitary Inspection, when the disinfecting corps will, as soon as possible thereafter, perform the work of fumigation.

"All vessels used for receiving the discharges of patients should have some of the disinfecting fluid constantly therein, and immediately after use by the patient, be emptied, and cleansed by boiling water. Water-closets and privies should also be disinfected daily with the same fluid, or a solution of Chloride of Iron, one pound to a gallon of water, adding one or two ounces of Carbolic Acid.

"All straw beds should be burned, but must not be removed from the sick room without a permit from this Department. They will be removed by the disinfecting corps.

"It is advised not to use handkerchiefs about the patient, but rather soft rags for cleansing the nostrils and mouth, which should be immediately burned thereafter.

"The ceilings and side-walls of the sick-room, after removal of patient, should be thoroughly cleansed and lime-washed, and the wood-work and floor thoroughly scrubbed with soap and water.

"By direction of the Health Department.

"MORREAU MORRIS, M. D.,
"*City Sanitary Inspector.*"

So soon as the Bureau is informed of the removal of the patient from the sick-room, the work of fumigation is performed by the corps designated for that duty, and it is done in the following manner: The doors and windows being tightly closed, after the bedding and clothing has been suspended in some manner, so as to allow free access of the fumes, from one to three pounds of sulphur are placed upon some metallic vessel, so as to avoid the danger of fire, a little alcohol poured over it and then set on fire, the operator immediately leaving the room and closing the door tightly, so as to prevent the escape of the fumes as far as possible.

This is allowed to burn out, and thus liberate large volumes of the fumes of Sulphurous Acid. After two hours the doors and windows may be thrown wide open, and the room thoroughly ventilated by the free admission of air. Experience has taught us that these means have proved, when thoroughly done, to have destroyed the infection which has been in the apartment. Carbolic Acid and Sulphurous Acid seem to have the property of utterly destroying the germs of this particular poison, while Chlorine, so much relied upon as a disinfectant heretofore, does not prove to have the same power. Experiments are being frequently made of various substances for the purpose of disinfection, as circumstances vary, so that those most efficient and best adapted to the purpose may be used.

When such facilities can be afforded, disinfection of apartments and clothing may daily be done, by means of the spray atomizer, which literally fills the atmosphere of the room with a fine cloud of disinfecting material, that may readily destroy whatever floating atoms of infectious matter may be present.

The following detailed report on small-pox was compiled from the Records of the Department by Health Inspectors Drs. WM. B. POST, HENRY T. STRONG, H. D. JOY, and AUG. VIELE:

Ages.	Total Number of Cases.	Total Number of Deaths.	Percentage of Deaths in Comparison with Cases	Percentage of Ages in Total Cases.	Percentage of Ages in Total Deaths.
No age given..........	301	8	2.65	9.35	0.70
Under 1 year..........	213	211	99.06	6.69	18.65
From 1 to 5 years......	331	220	66.46	10.40	19.46
From 5 to 10 years.....	280	91	32.50	8.79	8.05
From 10 to 25 years....	1,045	285	27.27	32.66	25.20
From 25 to 45 years....	889	273	30.70	28.87	24.14
From 45 years upward.	119	43	36.13	3.74	3.80
Total........	3,178	1,181	35.58	100.00	100.00

The average time from attack until death was a trifle over 10 days.

	Deaths.	Cases.	Mortality Percentage.
In Hospital..............	751	2,218	33.81
Isolated.....	380	960	39.58
Total...............	1,181	3,178	

Of the entire number of cases there were,
69.79 per cent. sent to hospital.
30.21 " " isolated.

Months.	Number of Cases.	Number of Deaths.	Mortality Percentage.
January, 1871...........	109	24	22.10
February, 1871	166	64	38.55
March, 1871.............	322	115	35.71
April, 1871........	268	110	41.04
May, 1871..............	258	97	37.59
June, 1871..............	248	98	39.51
July, 1871...............	169	88	52.07
August, 1871............	116	57	49.18
September, 1871........	51	23	45.09
October, 1871............	50	23	46.00
November, 1871.........	153	36	23.52
December, 1871..........	221	70	31.22
January, 1872....... ...	343	105	30.61
February, 1872..........	272	105	38.60
March, 1872.............	432	116	26.80
Total...............	3,178	1,181	35.58

Average number of cases per month 211.×
" " deaths " 75.×

"In 326 deaths, those occurring from January 1st, 1872, to April 1st, 1872, 94 had never been vaccinated; or 28.83 per cent. of the whole number.

By reference to these statistics, it will be seen that the mortality among infants under 1 year is upwards of 99 per cent., or nearly the whole number. This frightful mortality is due, first, to the invariable neglect of vaccination in infants who are taken with small-pox, and secondly, to the tender age of the patients, many of whom have contracted the disease in utero. From 1 to 5 years the death-rate exceeded 66 per cent. or more than half the cases. Experience has shown us that the large majority of patients between these ages have either never been vaccinated, or the vaccination has been unsuccessful. Between the ages of 5 and 10 years the mortality falls to about 32 per cent. This is the period when many children of the lower classes are vaccinated for the first time or re-vaccinated in our public schools. The period from 10 to 25 years gives us the smallest mortality percentage, being a trifle over 27 per cent. We attribute this to the fact that between these ages more re-vaccinations are performed than at any other time of life. From 25 to 45 years the percentage is 30. This is the prime of life, when the powers of resistance to disease are greatest. The mortality rises to 36 per cent. from 45 years upward, explainable by the circumstance that a considerable number included in this category were very old persons, whose declining vigor was unable to withstand the disease. We found two deaths at upwards of 80 years, several in the neighborhood of 70 years, and a number above 60 years, proving the necessity for re-vaccination even at an advanced period of life. The highest mortality percentages obtained during any months are found in July and August, being 52 and 49 per cent. respectively. We account for this by the well known influence of combined heat and humidity upon all zymotic diseases.

Vaccination.—Early in March, 1871, a special corps of about thirty physicians was appointed by the Board to offer gratuitous vaccination from house to house, especially in the tenement house districts. This corps, with occasional additions to their number, and with temporary intermissions in their work, have continued to vaccinate throughout the entire city up to the present time. The work accomplished by this corps has been an unprecedented and immense success, resulting in more than 300,000 vaccinations and re-vaccinations during the past year. At first, great difficulty was experienced in prevailing upon the masses generally to accept the vaccination offered. Suspicions were entertained as to the character and source of the virus. Many had been inoculated with the small-pox virus in infancy, and placed unbounded faith in its permanent protective power. Numbers declared vaccination in any manner or of any kind to be useless. As success follows upon the first efforts, many who had formerly refused vaccination now voluntarily sought it, until confidence in the virus and the manner of its application by the Board of Health is now very general among the masses. We beg leave to submit a few points of practical interest derived from the experience of Health Inspectors in this direction.

Is the virus employed by the Board of Health always of the best quality, and have constitutional or other diseases ever been transmitted by the vaccinating lancet? Every point of vaccine matter used by the officers of the Board is carefully taken from young healthy children, by experienced agents, directions being given that the maximum age of the subject whence the virus is derived shall be not more than two years, and the source of the supply is in all cases a primary vesicle at maturity, or on the eighth day. Lymph from a re-vaccine vesicle is never used. 1st. Because of the necessary uncertainty as to the purity of its source. 2d. On account of its unreliability. The following case which came under our observation may be cited in this connection: A mother obtained vaccine matter from a healthy re-vaccination vesicle on the arm of a friend, at the eighth day. She vaccinated her four children, none of whom had ever been previously vaccinated with this virus; the vaccination was, to all appearances, successful in each case, full, healthy-looking vesicles maturing on the eighth day. Almost a month afterward all four children were stricken with small-pox. Other instances could be cited of the same kind. Each point is carefully examined with a magnifying glass before distribution to the inspectors, and if the faintest trace of pus or blood is found, is invariably rejected as unfit for use. All points which have been kept more than 48 hours are discarded. We have yet to learn of a single case of any form of disease having been communicated by vaccination. In some instances, it is true, erysipelas, large unhealthy ulcerous sores, and scrofulous adenitis have followed closely upon vaccination. But these have always been satisfactorily explained by some peculiar disthesis of the patient, or by accident or carelessness after vaccination. Thus in scrofulous patients any irritation of the skin, such as the scratch of a pin, will not only induce inflammation at the point of application, but will sometimes even cause severe erysipelas, or swelling of glands at distant points. We are often compelled to vaccinate children whom we know to be cachectic at the time, owing to their proximity and exposure to small-pox. Bruising or rupture of the vaccine vesicle, irritation of the same by the friction of flannel, and exposure to cold or dampness during the maturating fever, are frequent causes of extensive soreness and erysipelas.

Very many of our older Irish population have been inoculated in infancy directly from small-pox pustules. We have seen several cases of severe small-pox in patients who had been thus inocculated. Occasionally we find a second attack of the disease in the same patient, but this is comparatively rare. The German physicians, as a class, introduce the virus at a large number of different points, scarifying much deeper than we are accustomed to do, disfiguring the arms by large, unsightly scars. Their patients rely upon the efficacy of this extensive vaccination too implicitly for safety, often giving as a reason for refusing re-vaccination the assurance that "they were cut deep enough to last a life-time." It is a common occurrence to find severe cases of confluent small-pox among these Germans, whose arms are covered with large, deep cicatrices. Our most reliable vaccinations are those in which limited scarifications are made. There should be simply a faint show of blood at the point, or better still a serous exudation. Two places at least should be scarified at each vaccination. The typical scar from a primary vaccination is a slightly foveolated depression, extensively honeycombed with small punctures like those produced in wax by the prick of a needle. No general rule can be laid down for the frequency with which re-vaccinations should be performed, but it should certainly be repeated at least once in five or six years, and oftener in proportion to exposure to small-pox.

Our information in regard to the operations of bovine virus is very limited, owing to the difficulty in the way of procuring a sufficient quantity for trial. We have records of five primary vaccinations in children, and two re-vaccinations in adults, all of which were eminently successful. One point of the virus only was used in each case. The changes in the skin were very similar to those observed in vaccinations with human virus, with the exception that the inflammation was possibly more severe, and the scars considerably deeper.

Both vaccinations and re-vaccinations, as far as observed, have been more than usually successful under the auspices of the vaccinating corps. This may partly depend upon the peculiar susceptibility of the class of people vaccinated, many of them being of foreign birth. (Dr. Elisha Harris, in speaking of the unusual receptivity for vaccination among foreigners, alludes to the influence of a sea voyage in nullifying the protective power of former vaccination.) It is chiefly due, however, to the unvarying care exhibited in the selection and employment of the virus.

In very many re-vaccinations where distinct, full vesicles were not formed, there was redness and infiltration of the skin, with small papulæ; in other cases there was simply redness and infiltration. In these imperfect cases, however, the inflammation ran its course in eight days, leaving very small and indistinct scars. Upon re-vaccinating these patients a second or even a third time no such result was obtained, there being only a slight redness and irritation such as is produced by an ordinary scratch. In the first cases the specific virus was evidently attempting to work its specific changes. Occasionally re-vaccination will fail several times successively within a short period, and will eventually give evidence of being successful. We meet with cases of small-pox where vaccination has proved unsuccessful a short time previously. In these instances it is not improbable that the vaccination has been carelessly performed, or it is possible that the condition of the system at the time was such as to interfere with success in the operation. Where vaccination fails at the first attempt, we would advise in all cases a second or even a third trial, particularly during the prevalence of small-pox."

The period to which this report refers is fifteen months, extending from January 1st, 1871, to April 1st, 1872. The statistics presented were obtained from the official ledgers of the Bureaus of Inspection and Records, and have been consolidated and classified only after careful study and repeated revisions. The record of each case of small-pox, and of each death from the same, have been separately studied, and their principal features noted in detail. Your Committee regret that they have been unable to obtain the facts concerning a small number of cases, viz.: those which had not been resident in this city for any period prior to their admission into the Small-Pox Hospital. But the number of such cases is not so large as materially to impair the accuracy of their statistics. The vaccination records, as obtained from both Bureaux, are so incomplete and unsatisfactory in character as to induce your Committee to abandon any attempt at their classification. It was not until about January 1st, 1872, that any regularity was observed in noticing the fact as to whether the patient had been vaccinated, or the contrary, on the death-certificates received by the Register of Records. Since that date, however, the statement has been made in every death-report, and your Com mittee have been enabled to furnish a reliable exhibit in this respect regarding the deaths occurring during a period of three months.

Notwithstanding the widespread prevalence of small-pox, and its constant tendency to become epidemic in New York, at no period during the past fifteen months has the disease assumed proportions such as to occasion the least doubt that the Board of Health could control the spread of the contagion. The largest number of cases occurring during any month was 432; in two successive months the number of cases was 50 and 51, respectively, and the average number of cases per month was 211. When we compare these figures with the reports received from European cities, and especially from Philadelphia, where the number of cases during epidemics has reached several hundreds weekly for long-continued periods, we can assert positively that we have had nothing approaching a small-pox epedemic during the past year. The mortality from this disease, as compared with the aggregate mortality from all other causes, was 2.98 per cent.

Our comparative immunity from small-pox is doubtless due to the following causes:—1st, and principally, the unparalleled amount of vaccination which has been performed under the auspices of the Board of Health during the past year, no other city in the world approaching to our own in the system and magnitude of the work. 2d. The prompt removal of the sick to hospital as soon as discovered, or the invariable care which has been taken to render the isolation of patients who have been allowed to remain in their homes as complete and perfect as possible. 3d. The thorough and effective means employed for the destruction of the germs of contagion, disinfection and fumigation being the principal measures adopted in every case. Occasionally, in very urgent cases, the Board has insisted upon the destruction of clothing and bedding.

The question of deciding between isolation and removal to the hospital is, with all the experience of years, often a matter of extreme difficulty to the Inspector. As a rule, when the patient lives in a dwelling occupied by one, two, or even three families, where a room or suite of rooms can be secured upon the top floor, with perfect quarantine from the other inmates of the house, with regular medical attendance, and with a nurse who never leaves the apartments until the termination of the disease, no question is raised as to the propriety of isolation. But cases frequently present themselves with the patient lying sick in the middle of a crowded tenement house in a populous neighborhood, where the danger of infection to the other inmates is very great, and where isolation cannot be made anything like effective. And yet the condition of the patient is often such as to render removal to hospital almost certainly fatal; as for example, in women far advanced in pregnancy, or shortly after confinement; the severer forms of confluent small-pox, in very young infants. In such instances isolation is usually attempted. But occasionally, when there is peculiar danger of the spread of the contagion, owing to the situation and surroundings of the patient, the public safety is consulted even at the risk of the individual life, and removal is insisted upon. No one who has not had large experience in dealing with the tenement house population can rightly appreciate the many difficulties in the way of effective isolation. Almost every sleeping room in such houses is provided with a ventilating window communicating with the hall-way. This window is kept constantly open for ventilation, and affords a ready egress for the escape of the variolous poison. Again, the limited accommodations of the family necessitate frequent and free communication with the patient. In this way their clothing becomes saturated with the variolous poison, which they disseminate freely among those with whom they subsequently come in contact during their every-day employments. It is also a well-known fact that the poorer classes are in the habit of visiting each other even more frequently during sickness than at ordinary times, and no advice or commands to the contrary seem to have any effect in preventing such intercourse.

It is the popular impression that hospital treatment results in the death of a very large number who might have been saved if allowed to remain in their houses; and newspapers are not at all slow in encouraging the feeling in this direction, representing the Small-Pox Hospital as "a pest-house of the worst description," "a den of death," &c., and inducing the belief that an order for transfer to hospital is equivalent to the signing of the patient's death-warrant. By reference to the annexed tables it will be seen that the mortality among patients isolated in their homes was about 39 per cent., while the mortality in hospital was only 34 per cent., giving an advantage of 5 per cent. in favor of the hospital. These figures appear conclusively to refute the almost universal prejudice entertained by the public against the hospital. But in this comparative statement we must remember that there is a considerable number of very severe cases which will almost certainly die, and which is allowed to remain at home through sheer humanity. This class of patients swells the aggregate mortality among the isolated. But the manifest advantages of free ventilation, skillful medical treatment, and all the benign accessories of a hospital exclusively devoted to the care of the disease, over the confined quarters, the close rooms, and the many unhealthful necessities of a strict tenement house isolation, are too apparent to require further comment.

The present manner of conducting the removal of small-pox patients through the city is a marked improvement upon former years. The Board has now at its disposal two ambulances which are especially arranged for the safety and comfort of patients, being large and commodious, furnished with easy chairs and seats, and with facilities for arranging beds on their floors for the use of patients whose feeble condition requires their removal in a recumbent posture.

The complications of other diseases with small-pox are of various kinds. It is not the intention of your Committee to enter into a scientific analysis of any of these, but merely to enumerate some of the more prominent. Pneumonia, bronchitis, pharyngitis, and laryngitis, the latter even to the appearance of œdema glottidis, occur more frequently than any others, partially induced by the severe inflammation of the throat and fauces which is so commonly met with in the disease. Children occasionally die in convulsions. Miscarriages in women far advanced in pregnancy are the rule rather than the exception. Several cases of scarlatina, occurring synchronously with small-pox, have been reported. In this connection we may refer to a not infrequent phenomena observed by vaccinators, that is, the appearance of varioloid shortly after vaccination, and before the formation of the vaccine vesicle. In these cases the vesicle undergoes a modified progress of development, the time of maturity being in some cases delayed and in others not influenced by the varioloid, but the disease being in all instances mollified by the vaccination.

It is the popular impression that the danger of contagion is dependent upon the severity of the attack of small-pox, and friends of the patient frequently comment upon the inhumanity of removing a very mild case of varioloid. Experience teaches us that the severest forms of confluent small-pox may result from exposure to patients upon whom the eruption is hardly visible. As a rule, the milder the case the greater should be the urgency for removal or strict quarantining; because the patient cannot be made to understand the necessity for non-intercourse with his fellows, when he is well enough to move about without discomfort. This statement applies with equal force to the period of desquamation, which is not only the most dangerous stage, by reason of the intense virulence of the contagious element at the time, but chiefly because the patient is sufficiently convalescent to move about and exercise his ability.

The similarity between varicella and varioloid in their earlier stages is oftentimes so striking as seriously to embarrass the physician in his diagnosis. Numerous instances have occurred when a patient has been allowed, with propriety, to remain undisturbed until the further development of the case decided the question in favor of varioloid. Doubtless many cases of small-pox have originated from this cause. Your Committee have seen many cases of varioloid honestly mistaken for varicella by both family and physician, who have either failed to report the same altogether, or have delayed so doing until others have contracted small-pox by careless exposure to what was considered a harmless disease. In the latter stages of these diseases the distinctive features of each renders the diagnosis simple. Varicella is often found in intimate association with small-pox. We have seen instances of the two diseases appearing at the same time in the same family, and under such circumstances as to induce us to believe that the theory of their identity, as advanced by some authors, may still be an open question.

Respectfully submitted.

G. CECCARINI, M. D.,
STEPHEN SMITH, M. D.,
MAGNUS GROSS.

"I."

REPORT

OF THE

SANITARY COMMITTEE

ON THE CHOLERA OF 1871, AND THE PRECAUTIONARY MEASURES TAKEN BY THE BOARD OF HEALTH TO PROTECT THE CITY AGAINST THAT EPIDEMIC.

The reappearance of Cholera in Eastern Europe, in the early part of 1871, and its gradual extension westward, were significant events in the history of that epidemic. It had been more or less prevalent in its old haunts in Asia in 1868, 1869 and 1870, with an increasing tendency to spread as in former years towards Europe. Whether this was a new appearance of Cholera, or a recrudesence of the germs of the epidemic of 1866, is a subject of doubt and discussion among students of epidemiology. To sanitary authorities the approach of this pestilence along its former routes, and with its usual rate of progress, was a subject of great practical interest. There could be no doubt that if the disease should finally reach the large seaport towns of Northern Europe, which are in such immediate and constant communication with New York, this city would be quite as much exposed to an invasion as the neighboring European towns.

On the first authentic report of the presence of Cholera in St. Petersburg and the northern towns of Russia, the Board of Health ordered a thorough and exhaustive inspection of the entire city, and adopted such other precautionary measures as were deemed necessary to place the city in a proper sanitary condition. These measures were as follows:

1. The thorough removal of every kind of street, house, stable and market refuse, and other filth which had accumulated in neglected places, streets, alleys, areas, sinks, &c.
2. Correction of all defective house drains through which offensive smells are let into houses; of all obstructed privy drains, and of defective sewers.

3. Lime-washing of unclean places, especially of old buildings densely occupied; disinfection, frequently repeated, of privies, damp and filthy areas, and places that cannot be thoroughly cleansed.

4. The vacation, cleansing and closing of occupied cellars which are damp, dark and unventilated.

5. Repeated examinations by the chemist of the water supply, with a view to detect the amount and kind of organic impurities.

6. Constant watchfulness over the inmates of emigrant and sailors' boarding houses, and repeated cleansing of these quarters, and disinfection of their sinks, water-closets, &c.

7. Plain and practical instructions to the agents and officers of all steamships plying between this port and the ports of Northern Europe, in regard to the necessary remedies in cases of suspected Cholera, the use of the various disinfectants, and the proper measures to secure sanitary cleansing of rooms, clothing, &c.

8. Accurate returns of the causes of all deaths, and of every form of contagious disease occurring within the city limits, especially among U. S. troops stationed at the different posts in and around New York.

9. The preparation of hospital furniture and supplies, and the selection of suitable buildings for temporary hospitals in various parts of the densely populated districts of the city.

The work of inspection was completed in June, and the reports of the Inspectors show that the condition of the city was unusually favorable at the close of the work. During the summer and fall months the inspection was repeated with a view to preserve cleanliness in the tenement house quarters, in the streets and markets, and a strict surveillance was maintained over low lodging houses, sailors' boarding houses, emigrant lodging houses, &c., and of the steamships plying between this port and the ports of Northern Europe.

On the 20th day of September it was reported to the Board that several cases of sickness resembling Cholera, had occurred at Woodbridge, N. J., among recently arrived emigrants. The Board immediately directed the Sanitary Committee, with the Health Officer and City Sanitary Inspector, to proceed to Woodbridge, and examine these cases and report the results. The following is the report of the Committee:

The neighborhood of Woodbridge, N. J., is level and rather low ground, marshy in some parts, brackish water in others, and deficient drainage throughout; it is watered by Rahway River, Woodbridge Creek and the inlets from the adjoining bay. The region itself is for these and other reasons extremely malarious. The habitations are generally built on level ground, with cellars either unprotected against rain or moisture, or no excavations at all. The privies are put up in the yards or little gardens in the rear of the houses, and a shallow sink forms the receptacle of the excrement; the houses themselves are mostly frame, but airy and well lighted. On two such houses your Committee found the dreaded placard of "Cholera," put on the outside in a conspicuous manner. Half of the village seemed deserted, the rest of the population panic-stricken. The *streets* in front of the two spotted houses were strewn over with chloride of lime, and the inmates of the houses quarantined. In the house occupied by one Fleckenstein, engaged as laborer in a fire-brick manufactory for some years past, no sick were found, his wife Clara

Fleckenstein having died on Friday, the 15th inst.; in the other house, second story, occupied by John Erb, likewise a brick maker, two women, Margretha Schussler and Sophia Erb, the daughter of the first named, and wife of John Erb, were found sick.

The history of the three cases is substantially as follows:

Case 1.—Margretha Schussler, the mother of Clara Fleckenstein and Sophia Erb, left Leitersbach, near Aschaffenbourg, Bavaria, on the 19th of August, with a view of joining her daughters at Woodbridge, N. J. Staying over night at Aschaffenbourg, she took the train on the 20th and arrived at Hamburg near midnight the 21st. Remaining two nights and one day in Hamburg, she went on board of the steamer Westphalia the 23d inst., thence to Havre and on the sea.

There was no sickness at Leitersbach at the time of her leaving; small-pox spread thereabout on the return of the German soldiers from France, having entirely disappeared months ago. There was also no sickness at Aschaffenbourg, where she stayed over night, with the exception of the usual cases of diarrhœa and dysentery throughout the season of the ripening of fruits. Margretha S. left her home entirely well, arrived so in Hamburg, and went on board of ship in the same condition. Besides a rather mild attack of sea-sickness, with comparatively little vomiting, she complained of nothing but a costiveness which befell her on leaving port and continued till her arrival at Woodbridge. Arrived at New York, after 48 hours of quarantine, she landed at Castle Garden. Margretha S. went to a boarding-house in Greenwich street on the evening of the 7th of September, where she took supper and breakfast, and on Friday morning, the 8th of September, her daughter found her and started at once with her for Woodbridge, where she arrived entirely well. During the entire passage Margretha S. ate little, her meals consisting of coffee, green tea, bread, meat and potatoes, with occasionally a drink of beer; partook of no fruit except dried and cooked pears and apples—sea-sickness and costiveness impairing her appetite. At Woodbridge she partook of some green tea and the usual meal of her family. In the course of the afternoon the grandchildren urged her to eat some grapes from the adjoining gardens, not yet ripe, as your Committee themselves noticed.

Later in the afternoon Margretha was seized with violent cramps in the bowels, and shortly afterwards vehement yellowish discharges of highly offensive odor set in, continuing through the night and all the following Saturday, she, however, during all that time being able to leave her bed and take care of herself. On Sunday she was seized also with vomiting, which, however, was not long continued, though it prostrated her considerably, in connection with the frequent discharges from the bowels. According to the testimony of all the witnesses heard, there were no rice-water discharges whatever; the information given by the patient herself was in all respects rational, coherent and satisfactory, the woman being above the average intelligence of her class of people. The conversation was held in German, her native tongue; she appeared, though weak, in all respects convalescent.

Case 2.—Clara Fleckenstein, daughter of the foregoing, went twice to New York on Thursday and Friday for her mother, and back to Woodbridge, not staying over night on account of the nursing of her child, etc. Her mother being taken sick, she stayed at her bedside for the greater part of three days and nights. This was from Sunday, the 10th, to Wednesday, the 13th, when she went to her house to bake bread. The next day, Thursday, she washed her clothes as usual, and also a shawl, petticoat, and some other pieces belonging to her mother, and used by her during the passage over the water. While washing she complained to a neighbor of a violent diarrhœa, causing her already about sixty passages. As this was on Thursday forenoon, the discharges from the bowels must in all probability have set in the day before, if not earlier. She finished her washing, however, put her things on the lines in the garden, and thereupon laid down on her bed. The husband returning from work in the evening, found his wife quite sick, and went for the doctor, who gave him some medicine. About 1 A.M., (Friday 15th,) Clara complained of pain in her left side, and a mustard plaster was applied. Shortly afterward she was seized with vomiting, threw up five times—and fell rapidly into collapse; she died at half-past nine in the morning, and was buried on Saturday; no rice-water discharges, the fæces being yellow-colored and of highly offensive odor to the end, according to the testimony of the husband, who buried the bedding, and also of the female neighbor who stayed with her during the last hours.

Case 3.—Clara Schussler, the other daughter, still confined to bed, was the one who found her mother at the boarding house in Greenwich street, and brought her to her home. She was subject to the same excitement and labor after their arrival home—cooking, washing (also part of her mother's clothing), nursing the sick mother alternately with her deceased sister, and finally being taken down herself.

Soon after the cases occurred in Woodbridge, the following case was reported in Essex street in this city:

Case 4.—Samuel Laing, aged 20, healthy—native of Wilna, Russia, which town he left with two nephews in the early part of July. He did not know that Cholera was then in that town, but the disease has appeared there since. Staid two days at Koenigsburgh; one day at Berlin, and two days at Hamburg; left Hamburg on the steamship, and arrived at Boston the last of July and came directly to his brother's house in Essex street, New York. He brought but few clothes, and they were in a handkerchief; the family immediately washed them; continued well until Sept. 26, when he complained of being sick in the morning; vomited freely; sickness continued all day and night; purging excessive so as to wet the bed through; begged for ice; collapsed next morning, and died about 8 P. M., Sept. 27. He was shriveled; nose pinched; face dusky; lost his voice, etc.; did not complain of cramps. A daughter and son of the brother, aged 12 and 10 respectively, had similar attacks but much milder on the same day of their uncle's sickness, from which they recovered.

No other cases than those above given were reported in New York or its vicinity, which in any marked degree resembled Cholera.

Although the epidemic continued very prevalent in Russia and Prussia during the summer, and was even reported at Berlin, Breslau and other cities, it was not until November that any cases occurred on board of steamers bound to this port.

On the 15th day of November, the Health Officer of this port announced the arrival of the steamship Franklin, with a large number of cases of Cholera on board. The history of this outbreak by Deputy Health Officer, Dr. Mosher, is as follows:

HEALTH OFFICER'S DEPARTMENT,
Quarantine, Tompkinsville, S. I.

DR. STEPHEN SMITH, New York:

DEAR SIR:

In answer to your note, requesting information concerning the steamship Franklin, the following is forwarded.

The Franklin left Stettin on the 10th of October, 1871, calling at Copenhagen on the 12th; and Christiansand on the 15th of the same month. There were taken on board six hundred and six steerage passengers from these ports, most of them being from Stettin, besides twenty-seven in the saloon, and sixty-seven crew, making a total of seven hundred persons in the ship. Six days after leaving Christiansand, Maria Glanart, a steerage passenger, two years old, was taken with Cholera; and the same day Anna Baumann, age two years; Johann Baumann, age five years; and the next day Marie

Baumann, six months old, were seized with the same disease; all of them dying on the twenty-third, after two days' sickness. There was another death on the twenty-sixth, being an infant nine months old; followed by a little girl, aged seven, on the twenty-eighth. Up to this date the disease seems to have been confined to one part of the ship, among the women and children, and at this time the first death of a male adult occurred, and it seems to have acquired a regular and somewhat rapid progress, the worst ravages being among the Danish passengers, whose berths were on the orlop deck. The following list of fatal cases is, perhaps, the best available history of the disease at this time:

On October 23d, there were four deaths; on the 26th, one; on the 28th, two; on the 29th, one; on the 31st, two. On November 1st, there were six; on the 2d, two; on the 3d, three; on the 4th, four.

At this date, viz., November 5th, after being at sea twenty-three days, the Franklin put in at Halifax; and remained there till the 8th, taking in coal and water, and making some repairs to machinery. While at Halifax, November 5th, there were five deaths; on the 6th, three; on the 7th, two; on the 8th, one.

On the 8th they left Halifax, and reached New York on the 13th; having, during the five days of passage, five more deaths, making in all forty-one fatal cases on board during the entire passage. It has been impossible to arrive at the exact number of cases which had recovered; but, judging from the disease as it was found on board on arrival here, I think the statement of her officers, that there had been one hundred cases, was nearly correct.

There were seven cases of Cholera in the hospital of the ship when she came into Quarantine, Sunday, November 13th, one of these dying that day; the other six were removed to the Quarantine Hospital, at West Bank.

The well passengers, and most of the crew, were, during the same day and the day after, transferred to the receiving-ship Delaware, and each day all who complained of any sickness were removed to West Bank Hospital, where a separate ward was used for cases in which the symptoms of Cholera were not well marked.

Of the seventy-two cases thus placed under observation and treatment, there were fifty-two cases of Asiatic Cholera, of whom twelve were fatal; making in all fifty-three deaths among the people on board of the ship.

The Franklin, after the removal of the passengers and crew, was cleansed and disinfected in every part, and no more cases occurred on board.

On the third of December the passengers were permitted to leave Quarantine; their baggage and clothing having been cleansed, ventilated, and disinfected.

No cases of Cholera occurred on shore, the disease being confined to the persons who came in the Franklin, and the last case from these was seven days after her arrival. The people of Halifax were not so fortunate, and several cases of Cholera, some of which were fatal, occurred after the Franklin left Halifax, and which were traced directly to that vessel.

The course of the Cholera on the Franklin offers some points of sanitary interest; from what we could know of it, it seems evident, that Cholera can be controlled and readily checked even under the unfavorable conditions which exist on board of a crowded ship. I believe the same thing could be done at sea in most cases, as well as after arrival in port.

Also, that the disease is aggravated by the confinement in foul air of those exposed to it; that the Franklin had rough seas and stormy weather on her somewhat long passage was evidenced by the fact that considerable damage was done to her machinery, and before making land the coal on board was all consumed, and portions of the woodwork used for fuel. In consequence the passengers were confined to the close air of the steerage, and the disease steadily increased. While in Halifax no especial sanitary precautions were taken; in fact they labored under the disadvantage of having to conceal the fearful conditions which existed on board in order to avoid being ordered from the port; the dead bodies were kept in the wheel-house during the day and sunk with coal weights attached at night, and yet the daily number of deaths decreased rapidly, being on the first day in port five, the next three, then two, and the last day one. The same is further shown by the course of the epidemic on board; the first cases were in the steerage between decks, and most of the cases afterward occurred among the passengers who were in the orlop deck below, where there was the most confined atmosphere, although fewer people. The saloon passengers who had the usual advantages of state-room accommodation and ventilation, escaped the disease entirely.

There were some complaints among the passengers as to the qualities of food and water, which were thoroughly investigated by the proper authorities, but there did not seem to be any serious foundation for them. The ventilation was found to be insufficient, and the *waste pipe of the water-closets for female passengers broken and obstructed* at one time.

The ship was not overloaded under the emigrant regulations of the ports from which she came, and the passengers were well cared for. The whole course of the mortality on board seemed distinctly traceable to the specific poison of Cholera, and was of sanitary interest because of the opportunities furnished to watch it as an epidemic, the conditions surrounding which were more or less under control.

No explanation has been given, and no satisfactory solution found, of the origin of the disease, further than that the first case was a Stettin passenger, and the bill of health from Stettin stated that there was Cholera there.

I am sorry that pressure of other business has delayed the forwarding of this to you.

Respectfully yours,

J. S. MOSHER,

Deputy Health Officer.

In response to a resolution of the Board, the Sanitary Committee, under date of November 15th, made the following report upon the condition of the city and the progress of the work of inspection, with suggestions as to further precautionary measures:

The Committee have but to repeat the substance of its previous reports on this subject. From the date of the spread of Cholera in Russia, westward to the seaport towns of Northern Europe, last spring, the Committee have daily anticipated the arrival of cases among the emigrants on board the steamships from those ports, and have from time to time advised the Board as to the precautionary measures which should be adopted. The actual arrivals of Cholera at Quarantine, did not, in our opinion, call for any change in those measures, but rather for greater thoroughness in their execution.

Though previously recommended measures have been executed during the past season to the full extent of the Board's power and means, the Committee are of the opinion that it should not relax its efforts in any particular. The tenement houses have been twice inspected with great care since April, and every practicable improvement made in their condition, and though at the last inspection, completed in October, they were found in much better condition than in June, yet such is the tendency of their occupants to accumulate refuse and filth about their homes, and to neglect cleanliness, that it is important to immediately repeat the tenement-house inspection. In this inspection, especial care should be taken to secure the cleansing and disinfection of privies; the necessary lime-washing and the correction of all defective drains.

The Board has from time to time urged upon the Street Cleaning Commission the pressing necessity of thorough and persistent cleaning of the streets, and the systematic removal of garbage, not only from the streets, but from the city. But at no time have the streets received that cleansing which the public health so urgently demands, and to-day they are in a most dangerous state of uncleanliness. The garbage which should be daily removed from the city, is collected at uncertain intervals, and deposited along the river fronts in newly constructed docks, and on low grounds in various parts of the city. The Committee would urge upon the Board the importance of again representing to the Street Cleaning Commission the necessity of both cleaning the streets and of keeping them clean, and of collecting the garbage promptly and removing it from the city. Numerous streets which the Board has requested the Department of Public Works to repair and pave for sanitary purposes remain obstructed with accumulations of filth. This is especially true of the Worth street extension. Efforts should again be made to secure these improvements.

The accumulation of stable manure on vacant grounds on the east and west sides of the town still remain, notwithstanding the orders of the Board for its removal. This nuisance should be abated, and if the parties who collected the manure upon these grounds do not immediately proceed to its removal, the City Sanitary Inspector should be instructed to procure its removal at the expense of said parties. We recommend, that the attention of the Controller, whose duty it is to superintend and provide for the cleaning of the markets, be called to the immediate necessity of the most thorough cleaning of all the markets, and the regular removal of all refuse matters, dirt, filth, &c., therefrom.

The removal of the cellar population to more healthful apartments above ground should be continued, and the work completed at as early a period as practicable.

As the contagious principle of Cholera spreads rapidly in communities whose water supply is tainted by house refuse and other kinds of filth, it is desirable that the chemist should repeat his analysis of the Croton water, and report the amount and nature of its impurities.

Constant watchfulness should still be maintained by the Health Inspectors over all the emigrant and sailors' and vagrant lodging houses, that the utmost cleanliness may be secured, and every suspicious case of diarrhœa may receive prompt attention.

The circular, previously issued, to agents and officers of all vessels carrying emigrants between the northern ports of Europe, urging cleanliness, the prompt isolation and treatment of all cases of diarrhœa, and the free use of proper disinfectants to the discharges, soiled clothing, &c., should be again issued, and compliance therewith urgently requested.

The medical history of the military posts in New York shows that Cholera, Yellow-Fever, Small-Pox and kindred diseases, have been brought within the city limits by the recruits taken from the vagrant population of other cities.

The refusal of the Secretary of War to require returns to be made to this Department of the contagious and infectious diseases occurring among troops at posts within the city limits, and to enforce needful sanitary ordinances and regulations in the case of death, the cause or causes of such death, leaves the Board powerless to protect the city against the introduction of Cholera, or other contagious, infections, or pestilential diseases through this channel.

The Sanitary Committee, under instructions from the Board, have made ample provision for the immediate opening of hospitals, and the prompt care of the sick.

Finally, the Board should urge upon all classes of citizens the necessity of strict cleanliness within and around their houses. Every possible source of filth and foul air should be removed or remedied; drains emitting offensive odors to the house should be repaired; privies should be cleansed and repeatedly disinfected; house refuse should not be retained where it taints the air, &c., &c.

In conclusion, the Committee would state, that the results of experience at home and abroad establish the fact, that "Cholera is so little contagious in the sense in which Small-Pox and Scarlatina are commonly called contagious, that if reasonable care be taken where it is present, there is scarcely any risk that the disease will spread to persons who nurse, or otherwise closely attend upon the sick." The same is true of communities however large. Proper cleanliness within and around the homes of the people; air, water and food untainted by foul and unhealthy impurities; isolation of the sick, and complete and immediate destruction, by disinfection, of the infective materials cast off by them, have proved effectual barriers against the spread of Cholera.

Respectfully submitted.

G. CECCARINI, M. D.,
STEPHEN SMITH, M. D.,
MAGNUS GROSS.

"K."

REPORT

OF THE

SANITARY COMMITTEE,

ON THE MOVEMENTS AND PRESENT CONDITION OF THE TENEMENT HOUSE POPULATION OF NEW YORK, WITH SUGGESTIONS AS TO MEASURES OF RELIEF.

By STEPHEN SMITH, M. D.

The Sanitary Committee, in compliance with the following resolution:

> *Resolved*, That the Sanitary Committee, be and is hereby requested to examine and report as to the past and present house accommodations of the class of the population of New York, occupying tenement houses, and make such suggestions as they may deem important, with reference to the improvement of existing tenement houses, and increase in their number.

Respectfully submit the following report:

One of the most important, if not *the* most important, sanitary questions to be determined by the authorities of large and populous towns is, "How shall the poor and dependent classes be provided with suitable dwellings?" The various and numerous sources of unhealthfulness, in every town, are of minor consequence, when compared with the gigantic evils of overcrowding in ill-constructed tenements. Health and longevity, under such circumstances, are physiological impossibilities.

Nor has this subject only a sanitary aspect. The testimony of every intelligent missionary laborer among the poor, clearly establishes the fact, that the moral and spiritual welfare of this class is intimately connected with the condition of their houses. Says Dr. Southwood Smith, England's first sanitary reformer: "A clean, fresh, and well-ordered house exercises over its inmates a moral, no less than a physical influence; and has a direct tendency to make the members of the family sober, and considerate of the feelings and happiness of each other." Mr. Rawlinson, with equal truth, remarks: "Defective house accommodations produce disease, immorality, pauperism and crime, from generation to generation, until vice has become a second nature, and morality, virtue, and honesty are to human beings so debased, mere names."

It requires but little familiarity with the tenement house classes of New York to fully appreciate these sentiments. Its tenement houses as constructed and managed, are the nurseries, not only of every form of contagious disease, and of perpetual epidemics among the poor, but of every species of vice, immorality and crime. Here human beings are herded together like brutes—men, women and children, without the slightest regard to decency. All approaches of pure and fresh air are excluded, and filth is allowed to accumulate on their persons, in their clothing and beds, and within and around their apartments, to an incredible extent.

A tenement house as defined by the laws of the State, includes

> "Every house, building, or portion thereof which is rented, leased, let or hired out to be occupied, or is occupied as the house or residence of more than three families living independently of each other, and doing their cooking upon the premises, or by more than two families upon a floor, so living and cooking, but having a common right in the halls, stairways, yards, water-closets, or privies, or some of them."

This is a description of a tenement house of minimum size, and gives no adequate conception of the great mass of the tenement houses of New York. In general they are old structures which were built for other purposes, partitioned off within so as to give each family two rooms, a living-room 10 by 12 feet, and a bed-room 6 by 4 feet; while no regard is paid to ventilation or domestic conveniences. Twenty, thirty, forty, to 150 such apartments are constructed, and into each a family of from 3 to 5 persons is crowded. Dangerous as is such overcrowding in individual houses, when exposed to the full play of the winds, the danger is increased one-hundredfold when such dwellings are as closely packed together in the blocks, as are the people in their apartments. Rear tenement houses aggravate the evil beyond measure. They are built upon the rear of the yard, close to the rear tenement of the opposite lot, leaving a small, cold and damp space between the front and rear houses, not inappropriately called "the well hole." Not only are fresh air and sunlight thus effectually excluded from the living and sleeping apartments of most of the inmates, but the buildings become cold and damp, and in time are saturated with the poisonous and filthy excreta of the inmates. While the wood and other materials of such structures, undergo the process of dry rot, the wretched tenants waste and die from a disease expressively termed "tenement-house rot."

The debasing effects of such houses has never been overdrawn. Perhaps the most vivid picture of the moral and physical degradation of this class of people was sketched by N. P. Willis, immediately after the riots of 1863, who was an eye witness to what he so truthfully describes. He says:

> "The high, brick blocks and closely packed houses in this neighborhood, seemed to be literally hives of sickness and vice. Curiosity to look on at the fire raging so near them, brought every inhabitant to the porch or window, or assembled them in ragged and dirty groups on the sidewalks in front. Probably not a creature who could move, was left in-doors at that hour. And it is wonderful to see and difficult to believe, that so much misery, and disease, and wretchedness, can be huddled together, and hidden by high walls, unvisited and unthought of, so near our own abodes. The lewd, but pale and sickly young women, scarce decent in their ragged attire, were impudent, and scattered everywhere in the crowd. But what numbers of these poorer classes are deformed, what numbers are made hideous by self-neglect and infirmity, and what numbers are paralytics, drunkards, imbecile or idiotic, forlorn in their poverty-stricken abandonment for this world! Alas! human faces look so hideous with hope and vanity all gone! And female form and features are made so frightful by sin, squalor, and debasement. To walk the streets as we walked them, for those hours of conflagration and riot, was like a fearful witnessing of the day of judgment, with every wicked thing revealed, every hidden horror and abomination laid bare before hell's expectant fire."

While the necessity of improving the house accommodations of the poor is as great, and perhaps greater in New York than in any other city, the problem is far more difficult of solution. Its insular position gives to it no suburbs, and hence no cheap lands on which the poor can build their own houses, nor where capitalists can build for them at remunerative prices. The pressure of commerce for surface area must grow more and more irresistible every year. The natural result of this conversion of older sections of the city to commercial purposes has been to raise the prices of land unoccupied to such an extent as to render it inaccessible except to the wealthy. In the discussion of the great sanitary question, "How shall the poor of New York be supplied with suitable homes?" it is important to study the past movements of the tenement house population and of commerce with a view to determine their future relations upon this island.

A quarter of a century ago, the tenement house population lived below Canal Street. At that time commerce, and business of various kinds, began to encroach upon their dwellings, and they sought homes on the comparatively cheap lands below Fourteenth Street and east of Broadway. Gradually the First, Second, and Third Wards became depopulated; and in place of the small and inconvenient tenements of the poor, appeared the enormous warehouses, stores, and manufactories which now cover this area. In the years 1855–60, the Fourth, Fifth, and Sixth Wards began very sensibly to feel the pressure of commerce, and another emigration of the poor took place to the eastern wards, viz.: Seventh, Tenth, Thirteenth, Eleventh, Fourteenth, and Seventeenth. Between the years 1860–65, this process of forcing the poor out of the lower wards mentioned continued, and we find that in the latter year the lower wards were reduced to a mere fraction of their former population, while the pressure upon the eastern wards had become fearfully great.

Other adjacent wards, especially the portions bordering on the rivers, also felt the pressure, viz: the Eighth, Twentieth, Eighteenth, and Twenty-first. The great tenement house districts of this city to-day comprise the Fourth, Sixth, Seventh, Tenth, Thirteenth, Eleventh, Fourteenth, and Seventeenth Wards, and portions of the Eighth, Twentieth, Eighteenth, and Twenty-first Wards. In this comparatively limited district, and in tenement houses of the most faulty description, half the population of New York now find homes.

These movements of the tenement house class during the past twenty years are strikingly exhibited in the following table, which shows that this population was in large part removed from the First, Second, and Third Wards during that period. The largest reduction in population occurred in the Second Ward, amounting to upwards of 80 per cent. During the last ten years the same process of emigration and from the same cause is noticeable in the Fifth and Sixth Wards.

On the other hand, the increase of population of the other wards occupied by tenement houses is correspondingly great, showing that the emigrants from the lower wards find their homes in the tenement houses of the upper wards. Thus the increase in the Seventh, Tenth, Eleventh, and Seventeenth Wards in twenty years, has, on the average, been 100 per cent.

CHANGE OF POPULATION DURING THE TWENTY YEARS 1850–70.

Wards.	1850.	1860.	1870.
First	19,754	18,120	14,468
Second	6,665	2,507	1,812
Third	10,355	3,757	3,715
Fourth	23,250	21,994	23,787
Fifth	22,686	22,841	17,152
Sixth	24,698	26,698	21,153
	107.408	95,417	81,582
Seventh	32,690	40,006	44,879
Tenth	23,816	29,051	41,411
Eleventh	43,758	59,963	64,230
Thirteenth	28,246	32,917	33,365
Seventeenth	43,766	72,775	95.411
Eighteenth	31,546	57,464	59,598

The diminution in the number of dwelling houses in the lower wards during the fifteen years 1855–70 shows clearly the nature of the changes at work. The number in the different periods was as follows:

Wards.	1855.	1865.	1870.
First	660	511	415
Second	256	81	41
Third	419	185	142
Fourth	1,162	995	937
Fifth	1,620	1,251	
Sixth	11,33	988	

But while the dwelling houses diminished, the stores or business houses increased; and in 1870 the following was the number of stores, warehouses, and business houses in the several lower wards, viz.:

First Ward	2,608
Second Ward	1,827
Third Ward	1,297
Fourth Ward	
Fifth Ward	1,178

These business houses average five stories in height, and are for the most part 25x100 feet.

The degree of overcrowding in our present tenement house districts, exceeds that of any of the large cities of the civilized world. The following comparative table exhibits the population to the square acre of the tenement house classes, or the poor of New York and London, according to the census of 1870:

NEW YORK.		LONDON.	
Ward 11th	328.	Strand	307
" 13th	311.	St. Luke's	259
" 14th	275.	East London	266
" 17th	289.	Holborn	229

The effect of this excessive crowding in badly constructed dwellings upon the death-rate is exhibited in the fact that this half of the population of New York yields 75 per cent. of the total annual sickness and mortality. Sickness and death are, however, but a fraction of the sum total of damage which overcrowding and defective house accommodations do to the poor. They are compelled to live in such familiar contact, such daily and nightly exposure of sexes, almost beastial, and such utter disregard of the common decencies of rational beings, that vice and the grossest immorality pervade the very atmosphere of their homes.

The excess of this overcrowding will appear when we state that the ablest English sanitarians, (*Health and Sickness of Towns' Populations*), fix the maixmum density for health at 80 persons to the acre; whilst the highest French authority, (Levy, *Hygiene Publique*), allows 100 persons to the acre.

But while commerce has been driving the poor from the lower wards of the city, a new feature has been added to the problem of providing suitable homes for the poor in the enormous rise in the valuation of lands over the entire Island. This must result in preventing the extension of the area of tenement houses in the upper parts of the Island, and consequently will be followed by still greater crowding and concentration in the present tenement house districts. The truth is, that between the high priced and hence unavailable lands in the upper portions of the city, and the encroachments of commerce in the lower districts, the tenement house population is being yearly crowded into narrower quarters, though that population is itself steadily on the increase. The degree of pressure of this class upon surface area in the 17th, 11th, and other wards, already frightful, must eventually, if no adequate remedy is provided, result in a death rate of enormous proportions. It is a fixed and unchangeable law, that when the number of persons on a given area, living on the surface or in low buildings, exceeds a certain limit, the annual mortality will remove the surplus. To prevent such consequences, either the population to surface area must be diminished, or a larger cubical area must be obtained by elevation with increased or adequate supply of pure air.

This law is abundantly illustrated in New York. In the old tenement house with low ceilings, three or four stories give but little elevation, and the mortality is greater in the same proportion than in the adjoining new tenement house with high ceilings, and hence elevated stories. But even when due allowance is made for improved ventilation within given limits, increased cubical area is not the equivalent of increased surface area in the effects upon the health of the people. It is evident to every one who studies this subject attentively, that the growing and already gigantic evils of our imperfect homes for the poor and dependent classes, must soon have an adequate remedy applied, or the death rate of New York in spite of every other form of sanitary improvement, must exceed that of any other city in the world. No more imperative duty devolves upon our City Government than that of devising and applying such remedy and with as much dispatch as possible.

The methods of relief which suggest themselves are as follows, viz.:

I.—THE IMPROVEMENT OF EXISTING TENEMENT HOUSES. II.—RECONSTRUCTION OF TENEMENT HOUSES ON THE MOST APPROVED SANITARY PRINCIPLES. III.—ERECTION OF MODEL BUILDINGS. IV.—THE DISPERSION OF THIS POPULATION, OR ITS DIFFUSION OVER A LARGER AREA.

I. *Improvement of Existing Tenement Houses.*—The first method of relief, or that of improving the sanitary condition of existing tenement houses, has occupied the attention of the Board of Health during the past six years. These improvements were made in accordance with the provisions of the law for the regulation of tenement and lodging houses. They relate principally to ventilation, defective drains, water-closets, cleanliness, &c. The aggregate amount of work done in effecting these improvements is incredible; in one year upwards of 49,000 ventilating windows were opened in those dwellings; while every spring and autumn a thorough inspection is made with a view to secure a semi-annual cleaning and necessary repairs. The result of these improvements is most gratifying. When the work began, the mortality in the tenement houses was about 75 per cent. of the total mortality of the city. It has steadily fallen, year by year, from 75 to 68, and from the latter figures to 66 per cent. and is still falling, showing during the last year an actual saving of 2,600 lives. And what is most important, the greatest reduction is in the tenement houses which were formerly in the worst condition and where the improvements have been the most thorough.

The result of this work appears in the following comparative statement of the mortality in tenement houses, public institutions and private dwellings during the past four years:

	First Dist.	Sec'd Dist.	Third Dist.	Total.
1868..Tenement Houses	3,645	5,823	5,082	14,550
Private Dwellings	1,778	986	3,261	6,025
Public Institutions	338	91	3,885	4,314
Total				24,889
1869..Tenement Houses	3,359	5,192	4,734	13,285
Private Dwellings	2,370	1.499	3,948	7,817
Public Institutions	311	90	3,664	4,065
Total				25,167
1870..Tenement Houses	3,017	5,500	4,535	13,052
Private Dwellings	2,426	1,632	5,120	9,178
Public Institutions	753	111	4,081	4,945
Total				27,175
1871..Tenement Houses	3,020	4,832	4,892	12,744
Private Dwellings	2,327	1,889	4,827	9,043
Public Institutions	1,041	152	3,996	5,189
Total				26,976

But the improvements which the Board has effected in the ventilation, cleanliness, &c., of these buildings, but mitigates the evil; it does not strike at the root, and effectually eradicate it.

II.—*Reconstruction of Existing Tenement Houses.*—A far more important remedy is that of reconstructing the old and imperfect tenement houses. The improvements contemplated by this work are radical changes in the interior arrangements of the buildings by which proper sanitary conditions are permanently secured. The rooms are rearranged for the convenience of families; thorough ventilation of every room and of all parts of the building is effected; new stories or extensions if necessary are added; water-closets and drains are properly located and made substantial; dilapidated walls, wood-work, stairs, &c., are renewed; in a word, the interior of the building is entirely remodeled and reconstructed, and the whole is placed in the most approved sanitary condition. The effect of this change in a tenement house upon the health, happiness, and morals of the tenants is marvelous. They cheerfully pay the increased rents; they now cultivate habits of cleanliness; family privacy and isolation being better secured, morals are improved; while cases of sickness become infrequent, and deaths almost unknown.

Examples illustrating the importance of reconstructing tenement houses are numerous. A house in East 17th street having a capacity for ten families, had fallen into a condition of extreme dilapidation and filth. It was long occupied by the poorest and most depraved classes, when in addition to other diseases, typhus fever began to prevail among the inmates, and in the course of six months 20 persons had this disease. It was then vacated and thoroughly repaired; the privies and drains were placed in good order; the walls were scraped and replastered; the wood-work was renewed; through and through ventilation in every room was secured; and the whole was neatly painted. During the five succeeding years scarcely a case of sickness occurred in that house.

The Old Brewery was formerly occupied by the lowest class of people living about the Five Points. It was in an extreme degree of dilapidation, and saturated with filth of every description. Every form of contagious disease here found a natural home, and diseases directly traceable to local causes prevailed throughout the year. The death rate of this community was about 55 per thousand, and the sickness rate was nearly equal to the total population. This building was taken possession of by the Methodist Society, and converted into a mission-house. The interior was entirely remodeled, additions were made, and two stories of the old building were converted into living-rooms for families, each family having one living-room and one or two bed-rooms according to their necessities, with adequate ventilation. The capacity of these two stories was for 20 families. The families which occupy this portion of the reconstructed Old Brewery are of the same grade as those which formerly occupied this building. They are the most destitute and abandoned class of that district. The Mission gives them apartments free of rent, provided they conform strictly to the rules of the institution, and support themselves. These rules require that no liquors shall be drank by the inmates, nor brought into the house; perfect cleanliness of their persons, apartments, and halls shall be preserved; they shall retire and rise at a given hour, &c., &c. The results are surprising. There is not more than one death annually among these 20 families, and that from chronic diseases not traceable to the house, and but rarely is there a case of sickness.

Here we have an example of a small community of about 100 persons with a death rate sufficient to entirely destroy it twice in a little over one generation, and a sickness rate, that on an average kept 3 persons constantly confined to bed, by the thorough reconstruction of their dwellings, and the strict observance of the simplest rules of hygiene transformed into a community where the sickness rate is reduced to that of the healthiest country residents, and the length of life increased more than twofold. The improvement of morals and social habits as cleanliness, good order, sobriety, &c., is most marked.

The tenement house, 33 Cherry street, was vacated by the Board of Health last fall on account of its extreme dilapidation. A more unsightly building externally and internally could scarcely be conceived when the wretched tenants finally left it. The landlord endeavored to lease it but could not, and was finally compelled to reconstruct its interior. It is now one of the most comfortable, convenient, and best appointed tenement houses, in that ward. The cost of reconstruction was about $5,000, and the increase in the rents which the improvements command will pay 10 to 15 per cent. on the expense. No sickness has occurred in this house since its reoccupation.

The old building known as "Gotham Court" occupied frequently by 150 families, which had long been the nursery of every form of crime and contagious disease, has recently been thoroughly reconstructed by order of the Board of Health, at an expense of upwards of $20,000. This building has just been reoccupied, and we do not hesitate to predict that the sickness rate will be 75 per cent. less than formerly. Examples like the foregoing might be multiplied by thousands. They prove beyond all question that the reconstruction of tenement houses is a sanitary work of the first importance, and will tend powerfully to diminish the otherwise inevitable sickness and death rates of New York.

A question arises in this connection of much practical interest, viz.: will the expenses of such reconstruction pay the landlords such percentages by increased rents and larger accommodations as to obviate their objections to these improvements? in all the instances examined, this question was answered in the affirmative. A better class of tenants immediately seek admission to these improved tenements, and pay without hesitation the increased rents; even the old tenants frequently prefer to pay the higher rent, for the sake of the improvements and increased comforts. The actual moneyed valuation of these improvements varies from 10 to 20 per cent. on the outlay. It is idle to allege that the poor cannot pay higher rents, even if thereby they secure exemption from sickness. Sickness and debility, are far more expensive to the poor than the most exorbitant rents. This subject has recently been fully studied and illustrated by Mr. Fletcher, an architect of London, in a small volume on *Model Houses for the Industrial Classes.* In this work Mr. Fletcher gives the results of his examination of a great variety of old tenement houses, with plans for their reconstruction. He shows, conclusively, that every variety of house, from an ordinary old-fashioned dwelling, for one family, to the most irregular store or warehouse, may be converted into a model tenement house, containing every convenience and comfort; and adapted, in every respect, to secure the health of its inhabitants. He also gives, in every instance, the cost of such improvements, and shows not only that these improvements will richly repay the landlord, but that it is far cheaper to convert old buildings into model tenement houses, than to build such houses from the foundation. In every aspect of the subject, therefore, the reconstruction of old houses, and their conversion into model tenements, is a great sanitary and economical measure. The tenement house law, however, does not give the Board of Health sufficient power over ill-constructed tenement houses. It can order their vacation only when they are so infected with disease, or out of repair, as to be dangerous to life. It should have power, not only to compel the thorough reconstruction of all improperly arranged tenement houses, but no tenement house should be erected the entire plans of which have not been approved by the Board of Health.

III.—*Erection of Model Buildings.*—The third method of relief is in the construction of *Model Tenement Houses.* The sanitary value of model tenement houses cannot be overestimated. Wherever they are found, the effect upon the tenants is most salutary, both as regards their health and their morals. Certain forms of disease, so prostrating and so fatal, disappear; contagious diseases are rarely met with; pale and sickly children become ruddy; cleanliness and order pervade each household; good manners and reserve succeed to rudeness; and personal respectability becomes the ruling motive. The experiments instituted by Mr. Peabody and Miss Burdett Coutts, prove that houses may be so constructed as to give to the poorest class of tenants, homes which secure to them, at moderate rents, every needed domestic convenience, and all the conditions of health. The effect of a residence in these dwellings upon the tenants, is thus summed up by Dr. Bowditch, of Boston, who lately visited the Peabody buildings:—"Sickness is very rare; epidemics have not raged inside, though, at times, prevalent immediately outside of the buildings, the general care of personal appearance of each tenant improves. This is remarkable chiefly in the women and children. In some instances, the change in men is wonderful, miraculous; a drunkard, slovenly and dirty; a husband neglectful of wife and home, under the influence of the silent example of his neighbors in these buildings, and from his own growing self-respect, became careful of his person, and his evil habits of drunkenness left him. He was literally a man renewed. The influence on children is almost constant. They may enter the buildings uncleanly, and with torn garments, but they rarely remain so long. Maternal pride and the stimulus applied to it, by the desire of the child to appear as well and as neat as its playmates, work wonderful cures."

While the value of such model houses for the laboring classes, is undoubted, a practical question arises which must be settled, viz.: Will the outlay on the part of the owner, pay a suitable income? It is not probable that the same kind of effort, where mere philanthropy is to be the main-spring of action, will soon be made in New York. The slight attempts, in former years, to erect model houses in this city proved very discouraging and will not soon be repeated. We must look to the present landlords of tenement house property for whatever improvements are to be made, and the Board of Health should have the supervision of the sanitary arrangement of the plans.

So far as the experiments of Mr. Peabody and Miss Coutts answer the question, the reply is in the negative. The returns upon the capital invested are so small as to be entirely unremunerative. But it was not the aim of these philanthropists to construct tenements for the purpose of testing this question, but rather to prove that the poor, living in suitable homes, would be frugal, thrifty and healthy; and they have abundantly established that fact. The question of building such model houses for the poor as would be remunerative has been settled by another enterprise which combined philanthropy with the remunerative investment of capital, known as the "Improved Industrial Dwelling Company." This company was organized in 1863, through the exertions of Sir Sydney Waterlow, a wealthy and public spirited gentleman now Lord Mayor of London. This company so adapted their buildings to the necessities of their tenants, and so economized their outlay, as to render their buildings remunerative. It has already constructed upwards of 430 tenements.

IV.—*Dispersion of the Tenement House Population.*—While it is evident that the improvement and reconstruction of the dwellings of the industrial classes will greatly add to the health, morals, and comforts of those occupying them, it is nevertheless true that these measures are not alone sufficient to remedy the growing evils of the tenement house system of New York. As already stated, the increase of the population to a given area may reach such a point that, whatever may be the condition of dwellings, the mortality will gradually rise, and its ratio will be directly according to this increase. We have already shown that the tenement house districts of this city seem not only to have reached their utmost expansion, but in fact are undergoing contraction while the population, aside from its natural growth, is annually receiving large accessions by immigration.

The methods of relief by dispersion are of two kinds:

(a) *Dispersion into the surrounding country.*—This has long been a favorite scheme with those who have endeavored to solve the problem of procuring better homes for the poor, but as yet it has yielded no adequate results. There are at least two obstacles to this plan. The first is the difficulty of supplying suitable means of conveyance for this class of people. They desire cheap and rapid transit. Cheap transit for laboring men who live in tenement houses must be cheap indeed to attract them from the city. The income of the greater number is of the most uncertain character, while the daily outlay for travel is a constant quantity. A distinguished philanthropist has stated that the fares of railroads must be reduced to twenty-five cents per week to bring them within the incomes of the poor in cities. As yet there is no evidence that any railroad leading from New York would place their fares at such rates as to afford cheap travel, or, in other words, to accommodate poor laborers. It is only on the waters that cheap travel can be expected, and even our present steamboat lines do not, and probably will not, reduce their rates of fare as low as this class require to make the inducement sufficiently strong to tempt them to seek homes in the country. But steamboat traveling is not rapid, and does not secure to the laborer that quick transfer from his home to the place of work—provided he lives at a distance from the city—that he desires. He must depend upon the railroad, which, as we have stated, does not, and probably will not, give him cheap fares without compulsory legislation, and such legislation, we believe, should be at once obtained. As a slight return for the privileges which railroad corporations enjoy within this city, especially in the monopoly of large areas of valuable land, they should be compelled to provide cheap transit for the poor and laboring classes. Such legislation in England long since compelled all new railroads entering London to provide penny trains at suitable hours.—(*Jour. Social Science*, 1866. These cheap trains proved a marked success. The Legislature of Massachusetts recently passed a law compelling the railroads entering Boston to provide cheap trains morning and evening.[*] The same kind of legislation should be obtained in this State, in regard to all railroads entering New York.

The second obstacle to the dispersion of this class in the surrounding country is the indisposition of large numbers to leave the city. Born and bred in these tenement house communities, where every vulgar passion is constantly excited and readily gratified, with the moral sense obliterated and habits of decency unknown, where domestic isolation is impossible if desired, they not only have no taste for the quietude of the country, but resist with desperation every effort to induce them to leave their present homes. Those familiar with the habits, desires, and prejudices of the poor of the city, know full well that whatever facilities are provided for their residence in the country, nothing short of compulsion will remove any considerable number of them from the city. We are brought, therefore, again face to face with the original problem of providing suitable homes for those who for any reason will not improve facilities for living out of the city.

(b) *Dispersion within the City.*—The question which we now have to consider is:—If we cannot disperse this class in the country, can it be dispersed within the city, and thus prevent that overcrowding which, with the best devised dwellings, will not save us from an enormous mortality?

We have already seen that the rise of land in the upper part of the Island, effectually prevents the erection of tenement houses, on unoccupied grounds in this region, at least to an extent, to meet the increasing wants of the poor. Nor is it desirable that these uptown districts should be thus occupied, except along the river fronts; or, in the vicinity of manufacturing establishments. It would add much to the future salubrity, and beauty, of these districts, if the larger portion were reserved for the spacious buildings and thorough improvements which the wealthier classes would necessarily require and secure.

There is but one other method of solving this question, and fortunately, that method is daily becoming more and more practicable. The commerce, which, during the last 25 years, has gradually driven these people from the first, second and third wards, and is now pressing upon them in the fourth, fifth, sixth, seventh and eighth wards, is voluntarily deserting the lower wards, and leaving them not only without business, but also without tenants. Meantime it has covered these wards with immense storehouses, many of which have been built in the most approved manner. They are, in general, twenty feet front by eighty, ninety or one hundred feet in depth, and five or six stories in height. These stories are large and spacious, and admit of the most perfect ventilation. They admit also of being divided and sub-divided, until each can be made a flat for the residence of families, each suite of apartments having the most perfect arrangements as regards sanitary completeness.

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[*] AN ACT IN RELATION TO CHEAP MORNING AND EVENING RAILROAD TRAINS TO AND FROM BOSTON. Approved May 6th, 1862.

Every Railroad Corporation, or party owning or controlling a railroad running out from Boston, shall furnish each day a morning train IN, and an evening train OUT, or suitable cars attached to other trains, and reaching and leaving Boston about six o'clock in the forenoon and afternoon, or at such hours as may be fixed by the Railroad Commissioners, for distances not exceeding fifteen miles, and for such trains they shall furnish yearly season tickets at a rate not exceeding three dollars per mile per year, good once a day each way for six days in a week, and quarterly tickets not exceeding one dollar per quarter per mile: *provided*, that the number of persons making application therefor shall not be less than two hundred.

The great problem of providing better house accommodation for the poor, and of relieving the terrible crowding in the present tenement house districts, could be solved, if the unused warehouses of the first, second, third and fifth wards were converted into model tenement houses, and an emigration of the laboring classes should take place from the upper to the lower wards. The second ward, at present, offers the greatest inducements for such a change. It has now a population of but 1,312, being but one person to 298 square yards, and contains no less than 1,327 immense warehouses and stores, or a store to each inhabitant. Statistics of commercial transactions show also that business has for the last few years, and notably within the last three years, gradually declined in the second ward, while it has correspondingly increased in the fifth, eighth and other wards. The question has indeed, been anxiously discussed of late by the owners of real estate and of the stores in the second ward, "How can these vacant buildings be again made to pay remunerative rents?" A definite answer may now be given, viz.: "CONVERT THEM INTO MODEL TENEMENTS FOR THE LABORING CLASSES." They may thus be made to pay from 10 to 15 and even 20 per cent. upon the cost of the original purchase, and of the necessary reconstruction expenses.

That these large buildings can be converted into convenient, comfortable, and healthful domicils for the poor, at an expense which future rents will quickly reimburse, and afterwards provide a permanent percentage largely remunerative, we are not left to conjecture. Instances have already been given demonstrating the fact that, in this city, old dwellings may be reconstructed, which will then yield a revenue from rents of from 10 to 25 per cent. upon the expenses incurred. The same is true of warehouses, stores, &c. These buildings, as found in the second ward, are peculiarly adapted to such improvements; they have large spacious stories, susceptible of any amount and kind of subdivision; the drainage is already good, and the ventilation may be easily arranged so as to adapt most perfect methods to each room.

It may be estimated that if the stores of the second ward were converted into tenement houses, they would each accommodate, on an average, 20 families, or 100 persons, giving a total additional population of 13,120, which, added to the existing population, makes a grand total of 14,432. The surface area to each person would then be 27 square yards, instead of 298 as now; but it would be nearly twice as great as it is in the eleventh ward (1 person to about 14 square yards). If these 13,120 persons should emigrate from one of the several upper wards, which are now excessively crowded, to the second ward, the result would be that the population of the up-town ward would be reduced to the census of ten to twenty years ago. For example, if these 13,120 were withdrawn from the seventh ward, the population would be about as in 1850; from the tenth ward, 1840; from the eleventh ward, 1855; from the thirteenth ward, 1842; from the fourteenth ward, 1830; from the seventeenth ward, 1867.

The effect of this change of population upon the public health of the ward or wards relieved would be most salutary. Nor would the change be less beneficial to those who entered the new and improved tenements in the lower wards. They would have admirable homes with much greater exposure to prevailing winds. The economical aspects of the question are also important. The laboring man would now be brought into immediate contact with his work. He could live with a minimum expense, and could give the maximum of labor.

It would seem, therefore, from this review of the movements of the dependent population during the past quarter of a century, that while commerce has driven them from the lower wards, and is now severely and fatally pressing upon them in the present limited tenement house districts, it is itself preparing a method of relief. The very buildings with which it covers the territory taken from the poor may be destined to become the future model tenement houses of New York.

We are not left to conjecture as to the importance of such a change. In Edinburgh the old buildings of a deserted quarter of the town were taken possession of, and converted into model dwellings for the poor. The result was most gratifying; the death rate of that part of the population fell notably; the morals improved; and this once abandoned district became one of the pleasantest suburbs of the city. Many other similar examples might be given, illustrating the importance of converting unused buildings in commercial quarters into residences for the poor. In New York such a change is to become an absolute necessity.

Conclusions.—The following general conclusions may be stated as the result of this examination of the movements of the tenement house population, and of their present and prospective requirements:

1.—Overcrowding of the poor of New York results from the extension of the surface area required by commerce on the south, and of the high price of lands on the north.

2.—This overcrowding now exceeds that of the most densely populated cities of the civilized world, and will steadily increase, unless adequate relief is afforded, until the mortality removes the surplus population.

3.—The most immediately practicable measures of relief to overcrowding and its evils are of four kinds, viz.: 1st. Improvement and reconstruction of existing tenement houses. 2d. The building of model tenement houses. 3d. Providing cheap railroad transit. 4th. The conversion of warehouses and other unused buildings into tenement houses.

In the execution of these measures the action of the Board of Health is limited by law to the first, viz.: the improvement and reconstruction of existing tenement houses. It cannot build model tenement houses, nor can it compel railroad corporations to provide cheap transit, nor seize unoccupied buildings and convert them into dwellings for the poor. These important reforms must be effected, if at all, through proper legislation. In its own sphere of duty, the Board of Health has carried forward the work of improvement and reconstruction with commendable energy within the limits allowed by law. But these limits are far too restricted, and the work allowed under the tenement house law can never accomplish the results, which the condition of the vast and even increasing tenement house population of this city demands.

To overcome the evils of overcrowding in New York, enlightened authority, with competent jurisdiction, must grapple with questions of far greater magnitude than those which at present concern municipal administration. The rights of property must be subordinated to the public welfare in a larger and more intelligent spirit than heretofore. Local or general governments must regulate property so that all the dependent classes shall have provided them houses which secure health, morality, and virtue. In the following opinion of an able sanitary writer and profound student, (ANGUS SMITH,* *Air and Rain*, London, 1872), we have a foreshadowing of that period when sanitary science and enlightened philanthropy will be the handmaids of the State.

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* "Let those courts, alleys, and streets which show the greatest mortality and the worst air be destroyed or improved without foolish mercy. There is a want of willingness to pull down dangerous property, but a readiness to rush forward to save the life of the greatest criminals. Reason is out of the question in the matter; we are misled by an uneducated feeling. We like to save property, forgetting that deadly weapons and poisons are subject to peculiar laws, and their indiscriminate use is forbidden to the nation. Houses that produce death are not property; as well might a man claim his debts as such. If a man sells unwholesome meat, the law interferes; if he sells the use of a room with fever in it, the nation seems not to complain. Officers of health point out such places, but the public still refuse to destroy them, and great numbers are slain annually by legal methods, whilst strict measures are taken to prevent a few annually being killed by arsenic—a death more agreeable than the lingering misery in the lower parts of our crowded towns. The time must come—and the sooner the better—when it shall be enacted that no land shall contain more people per acre than we know, by experience in several places, can live healthily thereon. The same thing must be said regarding houses, although these are more difficult for Government to deal with, because of the degradation of some of the population. Still the limitation must be attained, and for that we must strive."

"L."

EPIDEMIC CEREBRO-SPINAL MENINGITIS.

BY MOREAU MORRIS, M. D.,

CITY SANITARY INSPECTOR.

The following report upon this disease, is the result of investigations and records in the Bureau of Sanitary Inspection of the Health Department, which were made by its officers, during the recent epidemic which appeared for the first time, as an epidemic, in the city of New York, at the beginning of the year (1872). Isolated cases had occurred during previous years as the records of the Bureau of Vital Statistics of this department show. Deaths had been recorded from "Cerebro-Spinal Meningitis;" in 1866, 18; in 1867, 32; in 1868, 34; in 1869, 42; in 1870, 32; in 1871, 48. The statistics of the disease, as recorded herein, do not give all the cases that occurred within the periods mentioned, as some physicians failed to recognize it, from want of personal familiarity with the affection, during the beginning of the epidemic; and some neglected wholly to comply with the law, in respect to reporting their cases to this Bureau. It may be approximately estimated, that probably about one hundred cases were thus not recorded in the Bureau, which eventually recovered; which estimate should enter into the percentage of deaths to all cases.

During the early part of January, 1872, reports of a "new form of disease" began to reach the Bureau of Sanitary Inspection. Some called it "Spotted Fever," others "Epidemic Meningitis, a fever resembling Typhoid, and Typhoid complicated with Acute Meningitis."

Preceding this outbreak, the officers of the Bureau of Sanitary Inspection had been anxiously anticipating the appearance of some form of Zymotic disease in consequence of the excessive quantities of filth, which had accumulated throughout the city, by the neglect of the street cleaning department. Probably never, in its municipal history, had such a disgraceful condition existed so long. Again, the preceding nine months had been attended with most unusual atmospheric conditions. There had been a continuance of high temperature, with long absence of rain. As a consequence, the vast system of defective sewerage, underlying our streets and dwellings, had become surcharged with an enormous quantity of sewer gas, evolved during the decomposition of animal and vegetable matters therein. There had been no sufficient rain-fall to flush and wash out these accumulations, and consequently the public sewers had become vast receptacles and storehouses for this product of chemical and organic decomposition.

Knowing well the defects in the public sewerage system, as regards faulty grades and bad construction, and the bad, even criminal, manner in which private drains and sewers are almost universally built, as regards their inefficiency and insufficiency for the purpose intended, viz.: that of rapidly carrying away all effete matter put into them, by water flushing, and preventing the escape of noxious gases into dwellings, by having air-tight joints and traps, the sanitary officers of this Bureau at once suspected that local conditions would be found, such as would throw light upon the hitherto obscure etiology of this and kindred forms of disease.

With the first well-marked group of cases that occurred late in January, special investigations were instituted, to ascertain, if possible, what might be the cause. The conditions of defective local drainage were found to be such as would necessarily produce disease.

Pursuing this line of inquiry with succeeding cases as they were reported, it was almost universally discovered, that much the same unsanitary conditions, varying in degree, appertained to each case. It is hardly possible to convince one unskilled in this kind of examination, of the true danger that lurks in a defective sewer, whose open joints or insufficient water-traps, or open communication with the main street sewer, furnishes a direct outlet or vent through which poisonous sewerage gases escape into dwellings.

The effects of inhaling and absorbing into the human system these products of putrefactive decomposition are too well known by practical sanitarians to require any extended argument regarding cause and effect. As the receptivity or susceptibility of persons differ widely, so one may be poisoned by a peculiar principle developed by decomposition, while another may escape entirely any bad consequence; and as the various powers of resistance make it safe for one, so may the absence of those powers render it very dangerous to others.

Again, the peculiar special poison may not always be eliminated to the same degree in all places and under all circumstances, and thus perhaps the special cause of this peculiar form of disease may not always be sufficiently developed, or of such pungency, as to produce its special effects.

The human economy is so peculiarly constructed that subtle poisons of a gaseous nature, or perhaps possessing organic forms too minute as yet to be discoverable by art, enter it, either by inhalation or absorption, through the medium of the lungs or skin. Entering thus directly into the circulatory system, it becomes thoroughly intermixed, and its effects are produced, varying in form and degree with the individual peculiarities and according to its own specific laws, which are not yet well understood.

The general histology of this special disease has been so frequently recorded in medical literature that a simple reference to the authorities will here suffice. The following compilation is taken from Dr. Meredith Clymer's work on Cerebro-Spinal Meningitis, 1872. Its diagnostic symptoms are now well recognized, and will only be briefly stated.

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The Medical Journals of this country, published during 1864, '65, '66, and those of Dublin and London, during 1866–67, contain valuable articles, but too numerous to mention separately here.

This disease generally appears as an epidemic varying in degree and intensity, having acute specific characters; its onset is sudden; its course rapid and very fatal.

Its symptoms may be classified into local and constitutional. The local (acute), specially manifested in the cerebro-spinal axis; the general or constitutional, through the poisoned blood acting upon the whole nervous and circulatory system.

The special symptoms uniformly presented in the large number of cases herein reported establish its definite and epidemic character. Although every case did not present the same formula of symptoms, yet those that were manifested left no room for doubt as to the diagnosis. Some presented one class of symptoms more predominant than another, and seemingly varying in degree and intensity in proportion either to the exposure to the exciting cause, or perhaps the individual idiosyncracy, or the duration of the attack.

As a rule, the attack seemed sudden, with scarcely any or no premonition. Sometimes, however, there was described a feeling of weariness or malaise of a few hours' duration; but from the fact that a large proportion of the cases occurred among young children, this precursory manifestation could not be relied upon. Usually the first marked disturbance complained of was a sense of chilliness—rarely any decided chill—accompanied with severe headache, acute in character, generally described as excruciating, sharp, and almost intolerable, sometimes extending through the nape of the neck, and also affecting the limbs and joints, particularly the knee joint, resembling acute rheumatism. These painful conditions are universally attended with extreme feeling of prostration and great debility. In young children vomiting is frequently the first symptom noticeable. Gradual stiffness with sometimes spasmodic action of cervical and spinal muscles supervene; occasionally delirium, varying from muttering hallucinations to acute mania, with soporific intervals and coma; or intervals of a complete return of intelligence, succeeded by an aggravation of the acute symptoms.

The convulsive condition may be trismus, tetanus, tonic and clonic; spasms and even complete opisthotonos has been not unfrequently seen. The cephalic symptoms usually appear to have periods of exacerbation in the after part of the day. Sometimes there is double or distorted vision, tinnitus aurium, and complete deafness has occurred, while dullness of hearing is a constant symptom. The sense of taste is impaired, with entire indifference to food, and very little, if any, thirst.

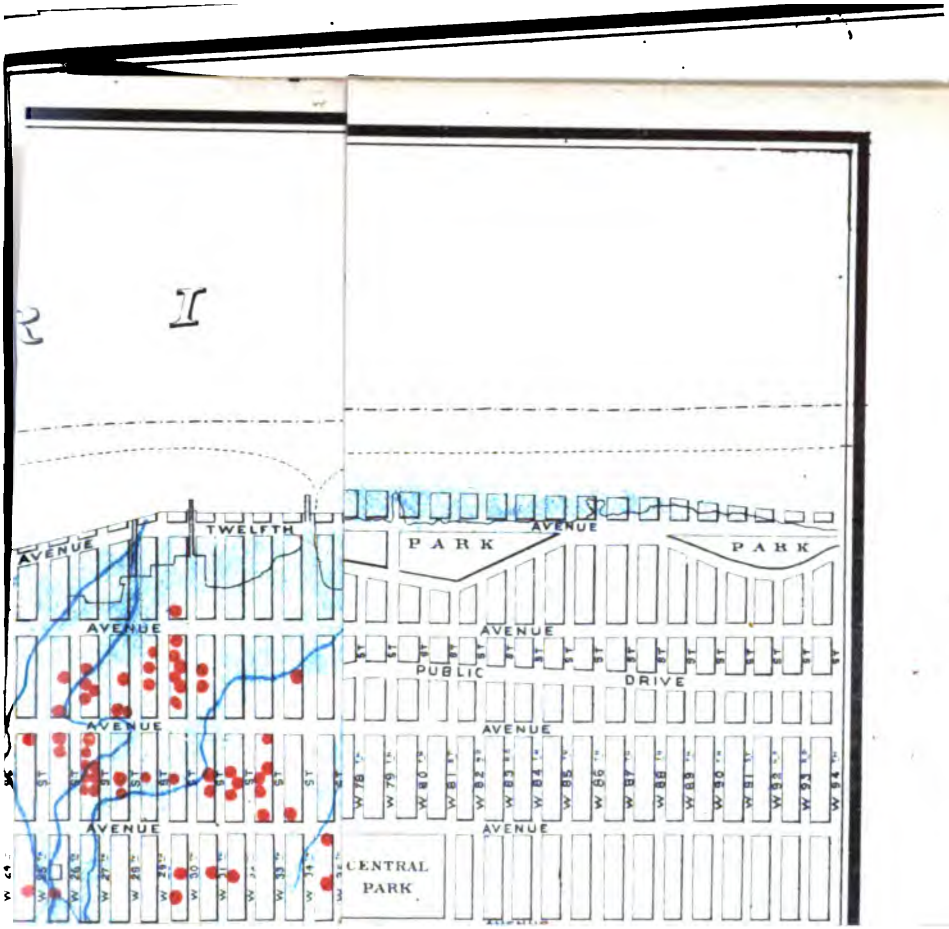
The pulse is quick and feeble; the tongue slightly coated with a whitish fur; the skin usually cool and moist; the face suffused; conjuctiva somewhat congested. The intelligence may continue throughout the disease unimpaired. Eruption usually appears early in the disease, during the first two days, resembling roseola, measles or a diffused rash, like that in Typhus. Sometimes pectechiæ, vibices or ecchymosis. Dark mottled spots occasionally are seen scattered over the surface of the body. The eruption is hæmic and is usually seen upon the face, neck, abdomen, back, arms and legs. It is not constant and may not be discovered at all in some cases. In some, no change of skin is observable until after death, when the whole surface has been seen of a rosy, mottled hue, lasting for some hours, especially when the disease has been rapidly fatal. Herpes of the lips extending to other parts of the face, ears and neck, were observed occasionally. Cutaneous hyperæsthesia, local or general, was frequently observed. The expression of the face is peculiar and presents a striking indication of the gravity of the disease; usually pale, sunken and distressed; frequently distorted by the paroxysms of pain; listless, indifferent to surrounding objects, except noise and light. The pupils vary; in some, contracted; in others, dilated and irregular.

Purulent opthalmia; softening and ulceration of the cornea; choroiditis and opacity of vituous humor not unfrequently are subsequent symptoms or affections. The temperature does not present that uniform high degree usually attending diseases of a febrile character, but varies remarkably and in conformity to the variations of the pulse, being remarked in some cases as below the natural standard. Its usual variations have been recorded as between 100° and 105°. Its fatality is very great, as it will be seen that out of 990 cases reported to this Bureau, 747 were fatal.

Various predisposing and exciting causes have been given by different writers as to the etiology of the disease. Although nothing constant has been noted by these which might be attributed as being the special cause, yet most agree that unsanitary conditions have probably furnished the factors. Although the special cause has not heretofore been satisfactorily demonstrated, the investigations during the present epidemic point strongly, if not convincingly, to the gaseous emanations of animal and vegetable decomposition, as presented in the defective sewerage system of this city, and entering into the dwellings connected therewith; in the large accumulations of the same putrefactive processes going on in our public streets; in the overcrowded condition of our tenement population, wherein exhalations of a similar kind are being constantly generated; and in the water-saturated soil of the undrained portions of the city, where former living streams had been obstructed in their courses, or land has been made from the debris of the city over its marshy marginal portions. A reference to the map accompanying this report must convince the most skeptical that these conditions have been the chief source in the production of the specific factors of this disease as it occurred in this city.

During the first three or four months of its occurrence, the markings of the localities of the disease upon the map were almost entirely confined to those portions represented by the blue lines (original water courses), and the blue shading (water, saturated soil, filled in, along the margins of the city). Subsequently the disease developed itself principally throughout the densely populated sections of the city, where overcrowding, defective ventilation, and bad house-drainage was the rule. Even in those isolated cases, where neither of these conditions seemed to be very evident, upon a careful examination of the house-drainage, almost in every instance defects were discovered, furnishing additional proofs that this special poison had been developed from this source. So uniformly were these defective conditions of the house-drainage found, when carefully sought for by an expert, that the conviction forces itself upon the observing mind, that the source of this malady must be sought for in the products of animal and vegetable decomposition, as it occurs in sewerage; or under other circumstances, in connection with certain atmospheric conditions. These remarks are not intended to assert beyond cavil that this is the only source of this malady, but to the unprejudiced mind, the illustration afforded by the accompanying map, in connection with the history of the progress of this disease, as it occurred in this city, from its commencement, as showing its habitats, its correlative circumstances, and the absence of any other known cause, certainly affords the strongest presumptive evidence that these conditions cannot be ignored in the study of its etiology.

It has been said, "Why then does this disease occur in rural districts, upon upland as well as upon lowland, among the rich as well as the poor, the well-fed as well as the ill-fed, among those who have enjoyed thorough ventilation, as well as those confined in close quarters, among the civil as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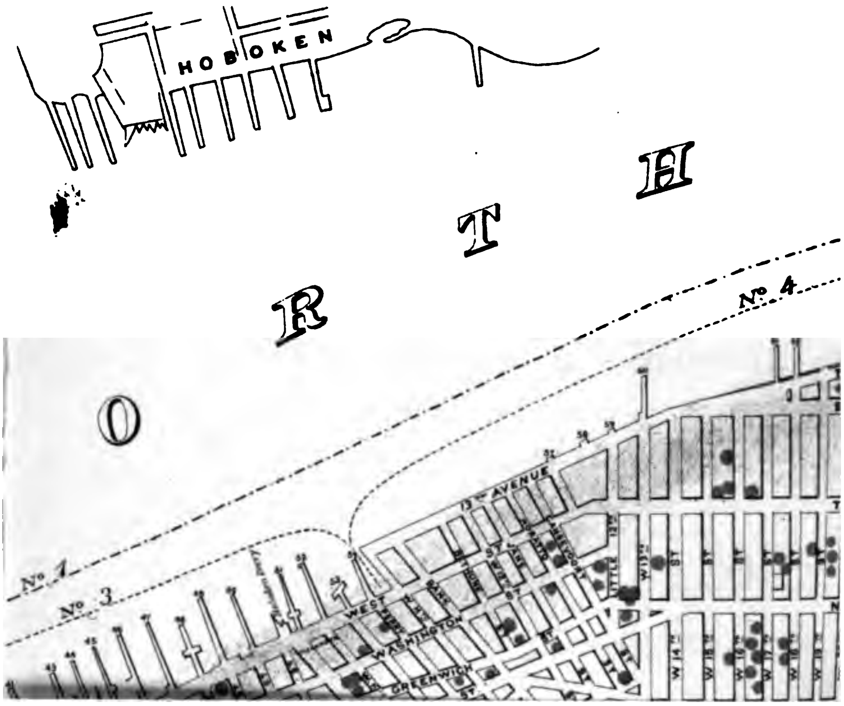
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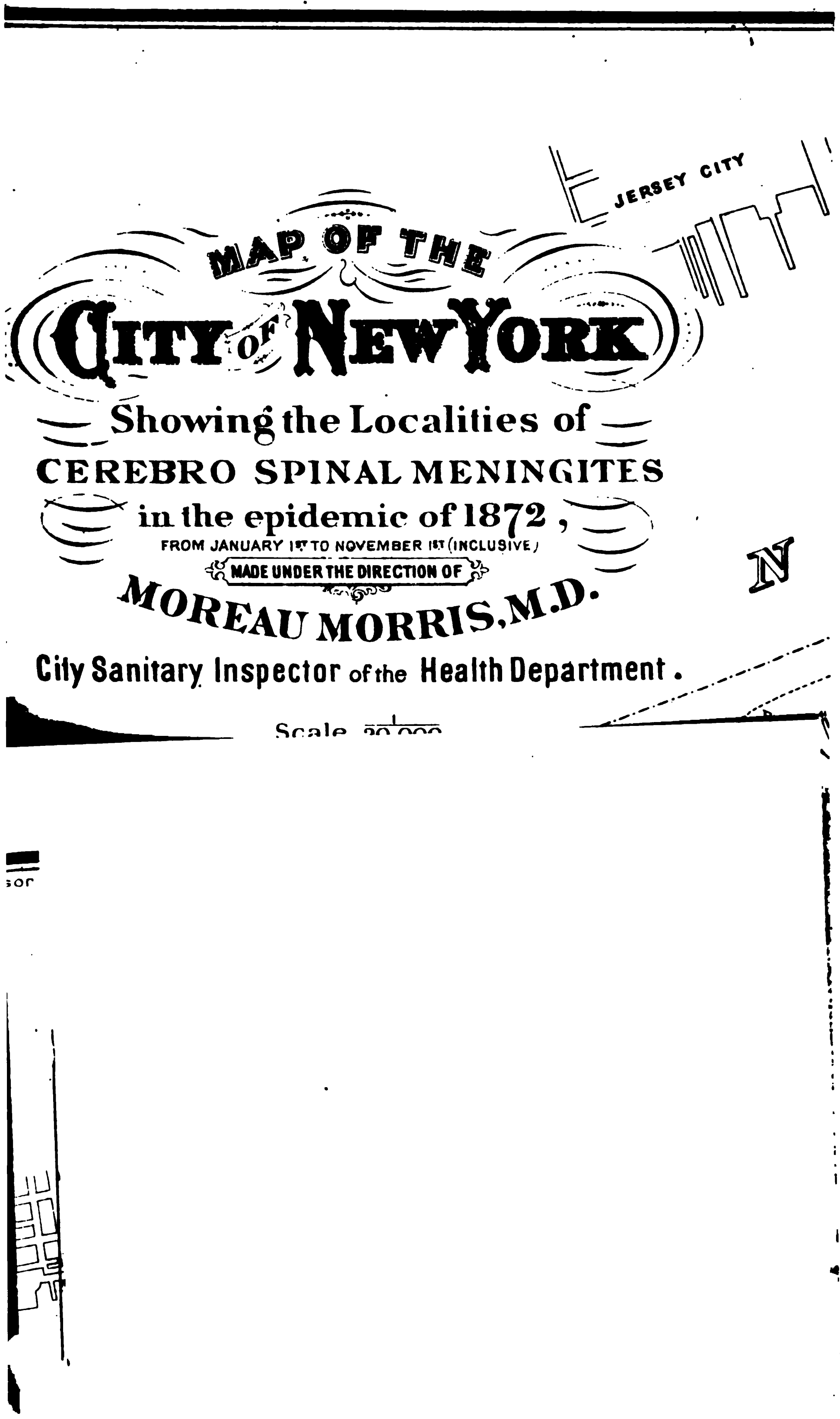

MAP OF THE CITY OF NEW YORK

Showing the Localities of
CEREBRO SPINAL MENINGITES
in the epidemic of 1872,
FROM JANUARY 1ST TO NOVEMBER 1ST (INCLUSIVE)
MADE UNDER THE DIRECTION OF
MOREAU MORRIS, M.D.
City Sanitary Inspector of the Health Department.

well as the military population?" From these very facts, does it not appear that there must be some special condition, or poison eliminated, which is developed under all these varying circumstances and conditions; and of which, under certain peculiarities, either of constitution or physical condition, some of those exposed fall victims; while others escape, although exposed to the same exciting cause? Do all have Typhoid, or Typhus, or Scarlet Fever that may be exposed to either? And may not the same person escape at one time, and be attacked at another? As the laws of health and sanitary science, or the prevention of disease by the application of that science, become better known, perhaps these causes may be more definitely pointed out. Already the professional, as well as non-professional mind has become convinced of the fact that in sewerage and its decomposition lurks a gaseous poison, whose direct effect upon the human system is Typhoidal. How many centuries have elapsed to bring this conviction? It may take as many more to convince doubting minds of the truth of the present observations.

Animal and vegetable decomposition is going on in all seasons, and all places. The chemical laboratory of nature never ceases in its operations; gaseous eliminations whether vitalizing, or poisonous and destroying, are ever in operation; man, through ignorance, or indifference, exposes himself to all, and the result is disease in one form or another. These gases are not yet fully understood by the chemist, and their effects under all circumstances are yet a study. That under favoring circumstances they will or do produce epidemics, or local diseases of a kindred nature, cannot be doubted. Certain combinations may produce one form or another of disease, and we may not be able to fathom or grasp all the correlations of circumstances which at one time produce one form of disease, and at another time other forms.

One fact, it may be well to mention. It is the almost universal rule in country habitations, to store vegetables in the cellars, and to neglect the proper drainage of the houses. Vegetable decomposition (rotting) begins to take place early. No escape is usually provided for the gases that may be generated in the cellars, by any proper system of ventilation, as they are usually well inclosed to prevent the effects of frost; consequently these emanations have no other outlet but into the rooms over them, where usually the family dwell and often sleep. Again it may be remarked, that this disease is almost always first developed during the winter months, when scarcely any fresh air or sunlight—the great natural sanitary prophylaxes—ever enters these confined places; and which is the usual period for vegetable decomposition to commence.

Meteorology affords additional evidence, as during certain atmospheric conditions, that this poison is eliminated during the putrefactive decomposition of animal and vegetable matter, which may be either upon the surface of the earth, confined in sewers, drains or cellars, or in crowded, filthy habitations.

During the continued heat of summer the earth's surface becomes heated to the medium depth of four feet, depending upon the nature of the soil. The annual fluctuation of temperature beneath the earth's surface depending upon the conductability of the soil, undoubtedly greatly influences health, during periods of drouth, when moisture does not assist in the radiation of heat from the surface of the earth.* Prof. Forbes states that "the temperature of the ground increases by induction and conduction of solar heat to a very considerable depth, and by actual experiment he found that the neutralization point of temperature, by absorption of solar heat and its radiation outward as terrestrial heat, is found at a depth of 57 to 99 feet."

As solar heat thus absorbed into the earth passes upward by conduction, and is radiated from its surface, so is brought with it whatever gases of decomposition may be present. These, under the ordinary fluctuations of temperature and hygrometric conditions of atmosphere, become absorbed and condensed in the form of vapor, and are thus held innocuous; while under other conditions of prolonged dryness of atmosphere, as in drouth, escaping as gases undiluted, are highly deleterious to health, and may become direct poisons upon the human economy. As an illustration of the difference in health probably owing to these terrestrial and atmospheric causes, we may compare the general health or diseases of those who spend the majority of their lives upon the ocean, with those dwelling upon the land.

Upon the ocean, solar heat is rapidly dissipated, and no like organic decomposition of vegetable and animal matter takes place, as does in and upon the land.

In this connection, with reference to the present epidemic, an investigation of the meteorological conditions immediately preceding its outbreak, exhibits the fact that, during the last three months of 1871, and the first three months of 1872, there had been comparatively with the corresponding six months of ten previous years, a very unusual and marked dryness of the atmosphere; and when we remember that this disease began to develop coincident with the lowest point of humidity, and rapidly increased during that dry state of the atmosphere, we may, perhaps, recognize an element having a most important bearing upon the question.

The following tabular statement exhibits the comparative rain-fall for these months, with that of the same months for the ten preceding years, with the difference:

	Whole rain-fall.	Average for 10 years same month.	Difference.
October, 1871	7.72 inches.	7.72 inches.	....
November, 1871	4 59 "	4.79 "	— .20 inches.
December, 1871	2.05 "	2.29 "	— .24 "
January, 1872	1.92 "	2.70 "	—1.18 "
February, 1872	2.14 "	2.04 "	+ .10 "
March, 1872	2.75 "	2.12 "	+ .63 "

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* It is a well-established fact that in rural districts, after a long drouth, Typhoid Fevers become very prevalent. Wells and springs become impregnated with poisonous matters, filtered through the surrounding earth, which are drank unwittingly, and thus produce disease.

This exhibits a total rain-fall for the six months of 21.17 in., while the total for the previous six months of the year 1871 was 31.60 in., a falling off of 10.43 in. And during the progress of this disease in this city, from January to November inclusive, following the low points of humidity, it is found that the disease increases, and on the contrary, when the humidity increases, the disease rapidly diminished; and so apparent was this fact, that the remark was hazarded, that when we had a sufficient rain-fall to thoroughly flush and wash out our sewers, and at the same time increase the density of the atmosphere, the disease would rapidly subside; which eventually proved a fact.

The difficulty of ascertaining the hygrometric conditions of the atmosphere in other localities where the disease has heretofore prevailed, prevents any comparison with reference to them, but probably the same fact was true of them.

The large predominance of the cases as they occurred in the earlier months in this city, being located over water-saturated soil, is very striking, and forcibly illustrates the idea of atmospheric combinations in the development of this special poison; in that the evaporation of the deep sub-soil moisture brought with it some elements or factors laden with the special poison of this disease.

The statistics of the disease as it prevailed in this city, and as reported to the Health Department, from January 1st, 1872, to November 1st, 1872, are here presented in a tabular form:

Total number of cases reported	990
" " deaths reported	761
" " houses in which cases occurred	835
Number of houses in which 1 case occurred	741
" " " 2 " "	68
" " " 8 " "	18
" " " 4 " "	1
" " " 5 " "	2

NUMBER OF CASES REPORTED FROM HOSPITALS INCLUDED IN THE TOTAL ABOVE.

Charity Hospital	20	Bellevue Hospital	18
Colored Home	4	St. Luke's Hospital	4
German Hospital	8	Infants' Hospital	2
St. Francis' Hospital	2	Blackwell's Island	2
Mount Sinai Hospital	1	Roosevelt Hospital	1
St. Vincent Hospital	1	St. Mary's Hospital	1
Strangers' Hospital	1		

STREETS IN WHICH THE LARGEST NUMBER OF CASES OCCURRED.

Third Ave	25	Delancey St	10
First Ave	21	Madison St	10
Mulberry St	18	West 26th St	10
Ninth Ave	18	Chrystie St	9
Tenth Ave	18	West 82d St	9
Cherry St	16	West 88th St	9
Eleventh Ave	17	Elizabeth St	8
Mott St	16	Monroe St	8
West 20th St	18	Seventh Ave	8
Baxter St	12	West 19th St	8
Greenwich St	12	West 80th St	8
Second Ave	11	West 44th St	8
Washington St	11	Willett St	8

By these statistics it appears that by far the largest proportion of cases occurred singly in different houses, 741 houses having but one case in each, out of the whole number of 835 houses in which it occurred, and this fact also strikingly illustrates the fact of its non-contagious character. Indeed it must be conceded that so large a distribution of single cases, had this disease been one of contagion, must have added thousands to its numbers, and whole households have been stricken with it, instead of confining itself to one susceptible victim.

The greater susceptibility and fatality in youth is also strikingly exhibited in the large number attacked under 15 years of age, as shown in the accompanying table.

TABULAR STATEMENT OF

WHOLE NUMBER of CASES of CEREBRO-SPINAL MENINGITIS

REPORTED TO THE BUREAU OF SANITARY INSPECTION FROM JANUARY 1 TO NOVEMBER 1, 1872; AND TOTAL NUMBER OF DEATHS, AS RECORDED IN THE BUREAU OF VITAL STATISTICS, UNDER THEIR RESPECTIVE AGES AND SEX, FOR THE SAME PERIOD.

DEATHS.

	Under 1 Year.	B'tween 1 & 5 Years.	B'tween 5 & 10 Years.	B'tween 10 & 15 Years.	B'tween 15 & 20 Years.	B'tween 20 & 25 Years.	B'tween 25 & 30 Years.	B'tween 30 & 40 Years.	Over 40 Yrs.	Total.
Males......	60	141	81	29	23	27	13	12	18	404
Females....	56	123	56	50	18	12	13	13	16	357
Total Deaths both Sexes	116	264	137	79	41	39	26	25	34	761

RECOVERIES.

	Under 1 Year.	B'tween 1 & 5 Years.	B'tween 5 & 10 Years.	B'tween 10 & 15 Years.	B'tween 15 & 20 Years.	B'tween 20 & 25 Years.	B'tween 25 & 30 Years.	B'tween 30 & 40 Years.	Over 40 Yrs.	Total.
Males......	3	33	22	6	5	4	1	3	3	80
Females....	4	21	17	12	3	3	1	2	1	64
	7	54	39	18	8	7	2	5	4	144

RECOVERIES.

	Under 1 Year.	B'tween 1 & 5 Years.	B'tween 5 & 10 Years.	B'tween 10 & 15 Years.	B'tween 15 & 20 Years.	B'tween 20 & 25 Years.	B'tween 25 & 30 Years.	B'tween 30 & 40 Years.	Over 40 Yrs.	Total.
Ages given, but Sex unknown....	2	18	28	9	5	3	2	1	2	70

Recovered—Ages and Sex unknown, 15.

Total Number of Cases, including Deaths, 990. Percentage of Deaths to Cases, 70.68.

During all these sanitary investigations, not one case occurred which presented any positive evidence of a personal contagious or infectious character; and indeed, the mass of recorded evidence by various writers in different parts of the world fails to prove that there is any specific contagion or infection in this disease. Persons suffering with it during this epidemic, were removed to other and more healthy localities, yet careful inquiries and investigation failed to show any case following such exposure.

Although several isolated cases had been officially reported to the Bureau early in the month of January, the first well-defined group was presented in the family of Mr. Brown, residing at 443 Eleventh avenue, a medical history of which was kindly furnished by Dr. John G. Sewall. The abstracts of other cases, as they occurred from time to time subsequently, with a condensed description of their local surroundings, as reported upon by the Health Inspectors at the time, are here given as illustrations.

These cases and examinations afford a very striking corroboration that these unsanitary and defective conditions of sewers and drain-pipes were the source from which this specific poison emanated.

Whenever families were removed to other localities, no new cases occurred; and when these faulty conditions of drainage had been remedied, or filthy accumulations had been removed, and the atmosphere thus purified, no new cases were developed upon the same premises. And, *vice versa*, when these unsanitary conditions were allowed to remain, other cases in the same family, or among other families dwelling upon the same premises, followed.

GROUP OF CASES FROM DR. SEWALL'S RECORDS.

I. "Albert Brown, residing at 443 Eleventh avenue, aged six years and six months, was, on the forenoon of January 30th, 1872, kicked in the side by a boy, and fell, striking his head against an iron railing. At 1 o'clock P. M. he reached home, but made little complaint of his injury until towards 7 o'clock that evening. He died on the morning of the 31st, at 4 o'clock. No physician saw him whilst ill, and there is, therefore, no account of the symptoms.

"A *post-mortem* examination by the Deputy Coroner, Dr. Beach, showed a thin layer of extravasated blood covering the surface of the brain, and extending to its base, with bloody serum in the ventricles. Dr. B. looked on the case as one of concussion of the brain, with rupture of a small vessel. There was a large patch of ecchymosis at the site of the kick, but no signs of peritonitis or other abdominal mischief. Some dark purpuric spots, irregularly scattered over the trunk, were noticed.

II. "Maximilian Brown, aged four years, in good health during the day, and playing up to 4 o'clock, was, at 11 o'clock P. M., February 4th, 1872, seized with vomiting and general spasms, without loss of consciousness. He seemed in a fright, and called constantly after his lost brother—(Case I). He was seen at midnight by a physician. He died February 5th, about 7 A. M.

The medical attendant states that the brain symptoms were prominent; he did not look for any eruption. Meningitis was reported as the direct cause of death. No autopsy.

III. " Theresa Brown, aged thirteen years, was taken, February 6th, at 2 o'clock A. M., with pain in the head, moaning and crying out. She was seen by Dr. Sewall at 9 A. M. She had been sitting up during the night at her brother's "wake," and had been much affected by the sudden deaths of her two brothers. When first seen, intelligence was perfect, the pulse rapid, the skin of natural warmth and moisture. There had been some vomiting. She complained only of pain, not severe, over the whole head. Bromide of potash was ordered, with sinapisms to the feet and nape of the neck.

" February 7th, 10 o'clock A. M.—She was in much distress, complaining of her head, and her mind was wandering. The pupils were somewhat dilated. Intelligence good. There was much hyperæsthesia of the entire surface, with tenderness of the large joints, which she said was rheumatism, having once suffered from it. Pulse 120 in the minute, and of good volume. The tongue was covered with a thin white fur, but was not dry. She had not slept during the night; had vomited, and the bowels had been moved. At 4 P. M. she still complained of her head and limbs. The inhalation of chloroform had procured some sleep. A petechial eruption, not abundant, over the trunk and thighs. It varied in size from a pin's head to a canary-seed, did not disappear on pressure, and was of a deep purple hue. A diagnosis of "Spotted Fever" was made. Morphia, half a grain every second hour, beef-tea, and milk-punch were ordered. February 8th, 9 A. M.—Pulse 120, and feeble; extremities cool; tongue and purpuric spots as before. Still complained of head, and of great sensitiveness of the skin. Much delirium and crying out, but the intelligence was good, and attention easily secured. Body heat 98° Fahr. Treatment continued. At 4 P. M. she was more composed; the purpuric spots were paler; face a little flushed; skin natural; pupils contracted readily to light; pulse 116, and with more volume; mind clear; tongue unchanged. February 9th, 10 A. M.—Passed an indifferent night, having been restless and delirious. Pulse 130 and feeble; skin warm; tongue whitish. For the first time since her illness says that she has no pain in the head or elsewhere. Petechiæ present; urine free; bowels open. Treatment continued.

"At 7 P. M. the pulse was 116 and fuller; no pains; had rather an uneasy day, though she slept at intervals. Takes milk and beef-tea moderately.

"Feb. 10.—Had been restless and delirious all night, and again complains of pain in the head. Pulse 108, and of good character. Eruption less, and of a paler hue; tongue more coated, but not dry.

"Feb. 11th, 2 P. M.—Had slept soundly all night; pulse 86 to 88; eruption nearly gone; no pain in head or back, though a little in the limbs. Skin, rather cool, particularly of the extremities; tongue cleaner. Sitting up. Takes milk and broth freely.

"Feb. 12th.—Slept well; very irritable; pulse 96; a little pain in the head and back of the neck; eruption scarcely visible; tongue cleaning; lips parched and dry; skin rather warm; urine free, clear, with no change on the application of heat; bowels costive. Drinks milk-punch freely. Subsequently recovered.

IV. "Berthold Brown, aged eleven years. Was first seen on the morning of February 7th, about 10 o'clock, lying on a couch, moribund; with a cadaveric expression, and deep icterode hue. Pulse very rapid and scarcely perceptible; skin dry and hot; mind not clear, and he could hardly be roused; pupils contracted; complained chiefly of his head. He had been to his brother's funeral the previous afternoon, a distance of six or seven miles. He seemed well on his return home, and ate a hearty supper. Between 7 and 8 on the evening of the 6th of February, he sickened, with pain in the head, vomiting, purging, and chill. There had been no convulsions. He died at 2 P. M., Feb. 7th, eighteen hours after he was first attacked.

"Autopsy.—Feb. 8th, 11 o'clock A. M.—Rigor mortis strongly marked. An eruption similar to that in the girl (Case III), but in greater quantity on the body. The serous and mucous coats of the stomach showed purpuric spots similar to those on the body. It was also scattered, though less abundantly, over the peritoneal coat of both small and large intestines. Lungs, heart, liver, and kidneys were healthy. The blood was very fluid. The whole of the surface of the brain was intensely congested, the veins and sinuses being gorged with very fluid blood, though not entirely devoid of coagula. On section of the brain little points of blood netted out everywhere. The ventricles were nearly dry. Consistence of brain natural. No exudation or purulent matter found.

V. Feb. 10th.—"About midnight the baby, one year and three months old, was taken suddenly ill; she vomited, and had several loose stools. There were slight muscular spasms, but no decided convulsions; she died at 9 A. M. The body was covered with an abundant purple petechial eruption."

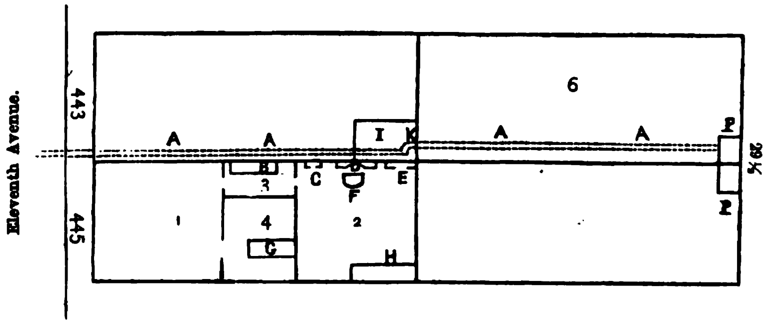
Description of Premises.—This family lived on the ground-floor of a house which was one of a row of wooden buildings, whose cellars had been made by filling up and grading of the avenue in front, and of the yards in the rear. A good stone-wall foundation had been built underneath. The apartments occupied were, (*a*) a medium sized front room, used as a tin shop and store; (*b*) a rear room, used for the general purposes of the whole family; (*c*) a small passage-way leading from the front to the rear rooms, in which some of the children usually slept in a small crib, and (*d*) a bed-room between the rear room and the shop. In this bed-room, which had no other means of ventilation than the door, the father, mother, and some of the children slept. The whole family was thus chiefly confined to the rear room and the small unventilated bed-rooms on one floor, and on a level with the street and yard. In one corner of the rear room, where the children spent the greater part of the day, was a closet [E] about one foot in depth, built against the partition wall of lath and plaster, separating this house from the adjoining one, with a base board not close to the flooring, not tight. There was nothing between it and the cellar, except the loose board floor. In this closet, which was chiefly used to hang up clothes, the children were in the habit of playing and spending much of their time. Immediately adjoining it was an unused fire-place, tightly closed by boards. Almost directly underneath the closet, but on the other side of the stone foundation partition wall, was the sewer pipe from a privy vault, common to the two dwellings. This sewer pipe of stone-ware led from the privy vault to and through the rear wall of the cellar, entering it about two feet above the bottom and connected with its extension, which passed underground to the street sewer, by an elbow of the same stone-ware pipe. The two ends of this elbow were found to enter into the pipes above and below the joints, and had originally been luted with cement or common mortar, which, becoming disintegrated, had fallen out, so that there was no obstruction to the free escape of the sewer gases at either end of the elbow joint. This portion of the cellar had been boarded up to the flooring above, to be used as a wood-bin, and was a moderately tight compartment, about six feet square, having within it the elbow of the sewer pipe.

Thus the escaping sewer gases were pretty effectually confined to that portion of the cellar, their chief means of escape being upward through the open partition wall and floor of the room above, through which they penetrated and diffused themselves, where the children usually played.

The mother stated that most offensive odors were constantly noticed, particularly in and about this closet. The oldest girl said to the Inspector, "Oh, sir, the smell is dreadful sometimes, making us sick, and almost vomiting. We had to open the doors and windows to get air. It smelt like rotten dead animals—it was awful!"

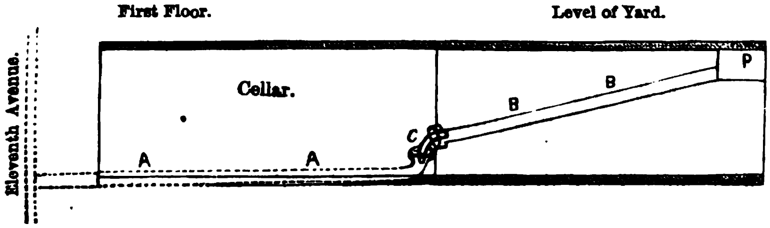
The following diagrams will illustrate the course of the sewer pipe through these premises and the open-jointed elbow connection, situated immediately underneath the room and closet [E] where the children were in the habit of spending the most of their time.

FIRST FLOOR PLAN OF HOUSE 445 ELEVENTH AVENUE.



1. Store in front
2, Living room
3. } Bed-rooms.
4.
5. Yard of 445.
6. Yard of 443.
A. A. A. A. (dotted line) shows the course of sewer-connection from privy vault.
B. Bed.
C. Closet.
D. Fireplace.
E. Closet, where children played.
F. Stove.
G. Bed.
H. Lounge.
I. Woodhouse. in cellar of No. 443.
K. Elbow at joint between sewer pipes.
P. P. Privy vault common to both houses.

SIDE ELEVATION OF CELLAR AND YARD OF 443 ELEVENTH AVENUE.



A. A. House sewer connection.
B. B. Sewer pipe from privy vault.
C. Elbow between the two pipes, with open joints.
P. Privy vault.

VI. 131 Lewis street, 4 deaths; two girls, aged respectively eighteen and twenty, and two children; they all slept in a room 10 by 15 feet; this room was connected by a ventilating window with an adjoining one (6 by 8 feet), in which there was an untrapped sink; there was no trap in the sewer pipe; the general waste pipe of the house passed into a concrete pipe in the cellar, which connection was exposed by the removal of a large mass of decaying sawdust, when an opening was found in the concrete pipe having a superficies of about two square inches, from which so much foul air passed from the sewer as almost to blow out the flame of a candle.

VII. 538 Sixth street, 2 deaths; a privy vault completely filled, and very offensive; a drain leading from it to the sewer, which was open in a part of its course, allowing the foul gases to escape freely into the cellar. Immediately above this the two children who had died of the disorder had slept.

VIII. 39 East Broadway, 1 death*; privy vault in yard, full; cellar filthy; sinks throughout the house untrapped, and foul odors escaping therefrom.

IX. 230 East Broadway, 1 death; premises in bad condition; yard, very filthy; sinks untrapped, and foul odors escaping.

X. 23 Eldridge street, 1 case; tenement house in bad sanitary condition; defective sewerage and drainage.

XI. 24 James street, 1 death. The family lived in the basement of a large double tenement house, which basement was divided into a store in front, on the street; a kitchen in the rear, and two sleeping-rooms (or passage-way closets) between. All the rooms were below the level of the street and yard. The inner sleeping-room, or closet, had no other ventilation or light than by the doors into both the store and kitchen. The other closet was lighted by two small glazed windows, which opened into an inter-space between No. 24 and

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* It is not intended by these numbers to indicate that there was one death or one case only in that house. In many instances there were several; but the abstracts are taken from the reports of the Inspectors, made immediately after a case or death from epidemic Cerebro-Spinal Meningitis was reported to the Bureau, to show the condition of the dwelling at the time of the outbreak of the disease in it.

No. 26, at the level of the ground, *i. e.*, five feet above the floor of the room, so that the air which came in when they were opened was very damp. The wall of this room, and of the whole side of the house was constantly wet, being directly against the earth. In this room, which the father described as always very foul at night, the child slept; he said that the child lay with its mouth open, and seemed to be affected by the bad air. About six feet in rear of the eastern side of the rear room, or kitchen, there was a large privy vault common to the front and rear buildings, and from it, directly under the floor of the kitchen bed-room (in which the child slept), and store, passed the main sewer drain connection to the street. It was of brick, cemented on the outside; the moisture and gases of the sewer had penetrated and saturated the bricks and cement, and the exhalations which at times came from it "fairly steamed." The sewer was also broken and defective. Immediately over all this lived the family. At the bottom of the area steps, leading from the street down to the store, was a large iron grating, opening into a sort of excavation under the basement floor; through this came in full force the foul odors of the broken sewer; and hereabouts, directly in and around the doorway and steps, was the chief play-place of the infant.

XII. 284 Seventh street, 1 death; premises in bad condition; no traps; privy vault very offensive.

XIII. 204 Seventh street, 1 death: a female, who moved into the house on the 1st of May in perfect health, and about one week afterwards sickened with the disease. The sink, untrapped and covered only with boards, projected into the bed-room, and the foul gases freely escaped into the room.

XIV. 47 Avenue B, 1 death; premises in bad condition; no traps under sinks in the house; privy vaults foul and offensive.

XV. 406 Broome street, 1 death; rooms filthy; sink in back room, untrapped, and emitting foul odors.

XVI. 219 Division street, 1 death; sinks untrapped; offensive odors constantly escaping therefrom.

XVII. 208 Elizabeth street, 1 death; rooms filthy; a hydrant sink untrapped, with sewer gases escaping.

XVIII. 153 Baxter street, 1 case; house cleanly, and well ventilated; a sink in the room connecting with the street sewer, untrapped.

XIX. 46 West Thirty-third street, 1 death; a brown-stone house in one of the best parts of the city. In the cellar the main waste pipe, connected with the sewer, had openings at the section-joints and at the connections of the smaller waste pipes from above; these fissures and openings had been hid and covered with a sort of soft cement, quite permeable, and useless for its purpose. Underneath the kitchen sink there had been such a leakage that the beams, together with the flooring over them, had rotted away, and emitted an odor like that from an old ice-box. This leakage had only been very recently repaired before the disease appeared in the house; all the sinks remained untrapped; the water-closet upstairs was without traps, and very offensive: in the extension room, on the parlor floor, there was a very peculiar and disagreeable odor, which was probably due to rotten or worn pipes in the wall or flooring.

XX. 63 Columbia street, 1 case; premises in bad sanitary condition; all the sinks (8) untrapped; the privy vault full and filthy.

XXI. 196 Second avenue, 1 death; condition of the house (tenement), good: but the cellar, containing large accumulations of rubbish and dirt, was very filthy and unventilated; noxious gases escaped from this cellar, through a large hole in the floor, into the room immediately under the bedstead on which the child who died of the disease slept.

XXII. 23½ Avenue B, 1 death; privy vault very offensive; sinks untrapped, and sewer gases escaped into the room in which the patient slept.

XXIII. 67 Cannon street, 1 death; no traps at bottom of waste pipe connecting with sewer in cellar.

XXIV. 71 Cannon street, 1 death; same as above; no traps under kitchen sink in either house; the tenants complained of bad odors in this house at times.

XXV. 219 Division street, 1 death; no traps to sinks, and offensive odors escaping.

XXVI. 640 East Thirteenth street, 1 death; no traps to sink; privy vault full and offensive.

XXVII. 111 Mott street, 1 death; no traps to sinks; privy vault in front of room in yard.

XXVIII. 22 Avenue B, 1 death; no traps to sinks; privy vault full and offensive.

XXIX. 107 Clinton street, 1 death; sinks trapped, but not sufficiently.

XXX. 406 Broome street, 1 death; no traps to sinks in back room, and bad smell.

XXXI. 10 York street, 2 deaths; also, 4 cases of Typhoid, 2 of which were fatal; occupants Irish, German, Italian, and colored people, all extremely filthy; house damp from cellar to roof, indescribably filthy, and out of repair; large privy vault, very full and offensive (common to 3 houses) near rear corner of house, and leakage from a hydrant was wetting and loosening the rear basement wall; cellar and cellar hallway distressingly filthy with rubbish and garbage; privy smells were "thick enough to cut with a knife"; a hydrant basin, set loosely over the mouth of an untrapped (4-inch diameter) sewer pipe connection, contributed powerfully to the impurity of air in the close damp yard; house subsequently vacated by order of the Board.

XXXII. 162 Second street, 1 death. "An open space, about two feet wide, in the rear of premises, was filled with garbage, rubbish, etc., and noxious gases from this place, as well as from the waste pipes of the sinks in the adjoining premises (No. 160), escaped into the bed-room of the deceased."

XXXIII. 106 Avenue C, 1 case; over a savings-bank. "Premises in good condition, but the state of adjoining yard (No. 333 Seventh street) was such, in my opinion, as to lead to the disease; the earth in the yard had been recently upturned in the removal of a privy vault; as the yard is inclosed on three sides by the walls of houses, and on the fourth by a high fence, the occupants must have breathed air contaminated by emanations from this privy vault, especially as the windows of the rooms of the bank open directly upon the yard, and were kept open day and night to allow the odors to escape from paint, turpentine, &c., which are present in new buildings."

XXXIV. 206 West Sixteenth street, 1 death. "Family live in a front basement, which is dirty and very damp; the sink in the hall often overflowing on account of obstruction in waste pipe; yard filthy, not paved; water runs from yard into rear area and rear entrance to hall."

XXXV. Northeast corner Twenty-third street and Eleventh avenue, 1 death (sick ten weeks). "A new sewer is being constructed in Eleventh avenue, below Twenty-third street, and together with the stench from the gas works and neighboring large horse-stables, the air at times is very offensive; at times, also, the stench comes up from the sewer through the waste pipes."

XXXVI. 560 West Twenty-sixth street, 1 death. "House, low basement dwelling; damp ground; filthy house and street."

XXXVII. 324 West Seventeenth street, 1 death; case on ground floor; no basement; no sewer connection.

XXXIII. 119 Baxter street, 1 death. "Six in family; apartments filthy; hydrant sink in room, untrapped, and emits an offensive odor."

XXXIX. 105 West Forty-ninth street, the Assistant Engineer examined, and says: "Found sewer under basement door open, and a water-closet in front basement in bad condition."

XL. 441 West Twenty-sixth street. "Found eighteen slop-sinks connected to 2-inch iron pipes with badly constructed lead traps and connections: some of them had no "dip," or hollow, to hold water, and neither cement or anything in the connections to prevent the escape of foul odor."

XLI. Shanty on south side Sixty-seventh street, 300 feet west of Eighth avenue, 1 death. "Shanty is directly on brink of the exposed sewer which runs diagonally through this block and the next, to the north; the surface of the adjoining lot is perpetually covered with a deep layer of stagnant water and semi-solid sewage matter, and the effluvia is extremely detrimental to health."

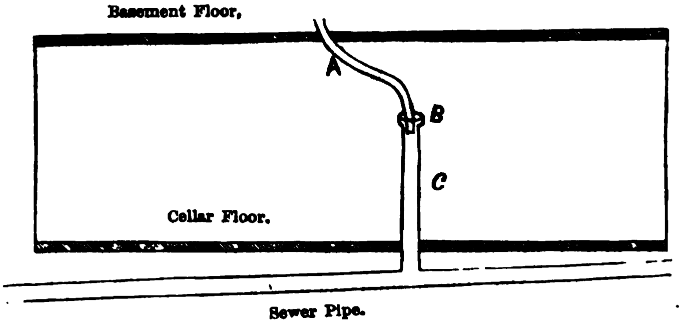
XLII. 176 East Sixtieth street, 1 death; private dwelling; several holes in sewer, in cellar.

XLIII. 196 Mott street; sewer in cellar broken; no traps to slop-sinks.

XLIV. 21 Morris street; privy vault and yard very filthy; no traps to slop-sinks.

XLV. 209 East Forty-eighth street, 1 death; child, aged 3 years; foul odors escaped into the house from an opening, occasioned by a 1½-inch soil pipe dropped into a 4-inch soil pipe, with no caulking or stopping of the space between the two.

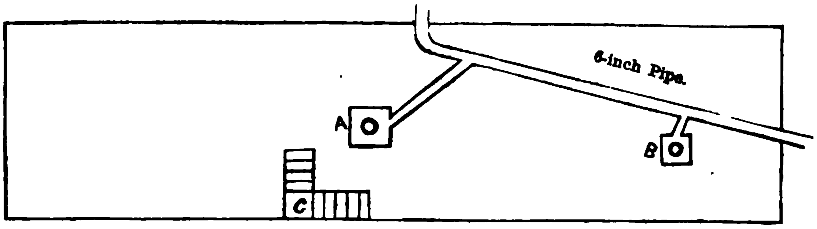
SIDE ELEVATION OF NO. 209 EAST FORTY-EIGHTH STREET.



A. 1½-inch lead pipe. B. Joint open. C. 4-inch iron pipe.

XLVI. 354 West Thirtieth street, 1 death; this house a brown-stone front; the fountains of noxious odors, in this case, were cesspools in the cellar, with large holes broken in the pipes connecting them with sewer.

GROUND PLAN OF NO. 354 WEST THIRTIETH STREET.

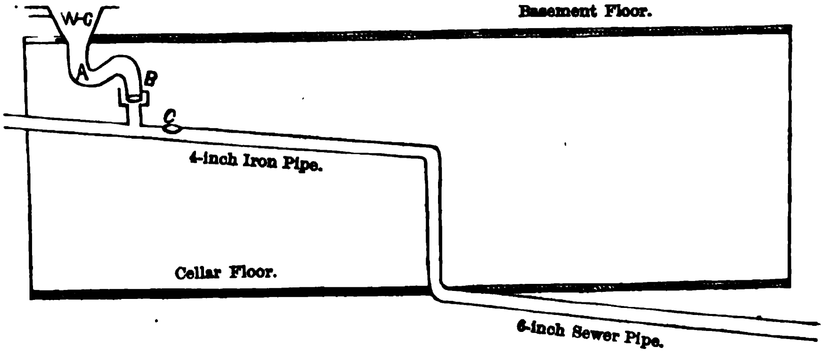


Ground Plan of Cellar:

A. Cesspool, with pipe open. B. Cesspool, with pipe open. C. Stairs from Cellar to First Floor.

XLVII. 431 West Forty-third street, 1 death; child, aged 4 years.

SIDE ELEVATION OF BASEMENT AND CELLAR OF NO. 431 WEST FORTY-THIRD STREET.



Side Elevation of Cellar of No. 431 West Forty-third street.

W-C. Water-Closet.
A. Trap to Water-Closet.
B. Open Joint.
C. Hole (1⅛-inch dia.) in Pipe, open.

In this case we found an open joint at the point of junction of the water-closet trap with the iron sewer pipe, and a large hole in side of said pipe, from both of which were a free and very perceptible escape of foul sewer gas.

XLVIII. No. — East Fifty-first street, near Fourth avenue, 1 death; a young man, aged 20 years. Nothing could be discovered wrong about the premises, or in the house drainage. The patient, however, when questioned as to his habits and business, said he was employed as a carpenter, and had been for two weeks previous to his attack engaged in repairing the large ice-boxes used in butchers' shops for keeping their meats. He said he was obliged to go into these and remove the inside board lining which usually rotted out every year, and replace it with new. The stench emitted from these decayed boards and inside lining was so great, in almost every instance, as to compel him frequently to go out into the open air, and he sometimes vomited in consequence. At times some of these ice-boxes were so foul, that he could only work in them but a few moments at a time. He had not been well since he commenced this kind of work, having a constant distressing headache, and finally was taken with a chill, followed with the usual symptoms of Cerebro-Spinal Meningitis, of which he died.

The autopsy disclosed the whole surface of the brain congested, veins and sinuses having considerable fluid blood, the ventricles having considerable effused serum in them, and the meningeal vessels intensely congested. The congestion extending as far down the spinal canal as could be seen from the opened cranium, with effusion in the canal. All the other internal viscera of the body were found in a normal condition.

Further illustrations would but add to the corroborative evidences here presented.

In these examinations, and many others not given in the above list, when carefully made, (as they were in most instances, with the assistance of an experienced plumber attached to the Bureau, as Assistant Engineer), not only were sewer and drain pipes found disjointed and imperfectly connected in the various houses, but in some instances the old lead soil pipes were found so corroded by the sewer gas, as to present a honey-combed appearance, through whose interstices it constantly escaped, thereby befouling the atmosphere of the cellars and rooms above.

It may not be deemed out of place here to notice the fact, that in a very large proportion of the dwellings in this city, whether private houses, tenements, or "flats," adequate and proper provisions are rarely ever made for the ventilation or escape of sewer gas, which is constantly being generated in the sewer and soil pipes. Such a provision may be easily and simply provided, *by extending the main soil pipe with which all the waste pipes of the house connect, directly upwards and outwards beyond the roof of the house, from the street sewer, without any intervening stench trap.* By this simple and direct means, all the poisonous or offensive gases, generated in the street sewers, or soil pipes of the houses, would have an unobstructed outlet to the higher stratum of air, where they would become innocuous by rapid dilution. If, in addition, this soil pipe could be so arranged—as it might be in new buildings—as to pass upwards, either into the chimney, or by a separate flue connected therewith, it would become heated by its proximity, and an additional impetus would thereby be afforded to the upward current, thus increasing its effect as a ventilating shaft both for the house drains and the public sewer connected with it. Such a construction has, in several instances, been recommended and applied, and is found to fulfill all that was anticipated in removing offensive odors from the dwellings, and thus purifying the atmosphere of the rooms.

PRACTICAL DEDUCTIONS.

That this disease is specific in its nature, possessed of great fatality, having an analogous etiology with Typhoidal diseases, but depending upon the elimination of some special poison generated in the decomposition of animal and vegetable matter, under certain meteorological conditions.

That it is not contagious or infectious from the person, or through the medium of fomites.

That its mode of attack is by the operation of this special poison upon the blood, through inhalation or possibly cutaneous absorption.

That its special lesions are congestion of the vessels of the brain and spinal axis, followed by the sequelæ of acute and sub-acute inflammation.

Its prophylaxès are the prevention of the escape of poisonous sewer gases into dwellings, by providing for their free outlet into the external atmosphere; thorough cleanliness and removal of all decomposing matter about the premises; disinfection with carbolic acid in some form, or some other equally powerful arrester of decomposition; free ventilation of all close or confined places, by the admission of fresh air in large volumes; and thorough washing or flushing out of all drains or sewer pipes connected directly or remotely with dwelling houses.

"M."

CROTON WATER SUPPLY,

WITH ANALYSES OF THE WATER.

BY

MAGNUS GROSS AND C. F. CHANDLER, PH. D.

REPORT ON THE SOURCES OF THE CROTON, BY MAGNUS GROSS.

The quality and quantity of the Croton water having been made the subject of discussion in the public press and elsewhere, the Board of Health could not but take notice of the disquietude and alarm created on that account among our citizens, and be conscious of its duty to allay them, if in its power. The Consulting Chemist of the Board, Prof. Charles F. Chandler, was forthwith requested to institute an analytical investigation into the present condition of the Croton water coming from the reservoirs in our own midst, the result of which has already been presented to the Board; while, at the same time, it was resolved that the original feeders of the said reservoirs—in other words, the sources of the Croton—should be examined. A visit to the vast drainage area of the Croton Aqueduct was to this end suggested; and, through the ready assent and kind assistance of the Department of Public Works, put in execution. On last Thursday, the undersigned, in company of Mr. Tracy, the Chief Engineer, and his Assistant, Mr. Emmet, of the department just named, Prof. Charles F. Chandler, and Dr. H. Endemann, Assistant Chemist of this Board, left the city on their tour of exploration. The party returned on Saturday night, with about twenty-five samples of water, taken on the spot, that are now in the hands of the chemists for comparative analyses, to determine their organic and inorganic constituents, and other properties appertaining to them. These samples were taken from the seventeen lakes and ponds visited in the Counties of Westchester and Putnam, as well as from the leading brooks and rivers constituting the main feeders of the Central reservoir, the Croton Lake. An area of over fifty miles from south to north, and nearly as many from east to west, was traversed to this end, and a thorough knowledge of the physical and geological character of the vast drainage area obtained. Reserving all details of a strictly chemical nature to be embodied in a subsequent report, expected at an early day from Prof. Chandler and his Assistants, I have the honor to lay before the Board the following general observations:

The drainage area of the Croton Aqueduct takes in nearly all of the northern portion, east to west, of Westchester county, the whole of Putnam county, and the southern part of Dutchess county, excepting only such portions of the same where, at a certain point along the westerly line, the drainage is directed toward the Hudson river, instead of the Croton branches, and respectively the Croton Lake. The topography of the country, embracing a drainage area of over 330 square miles, almost without an exception, strikes the visitor as if specially shaped and destined by a benign Providence to serve as the great receptacle and storehouse of that element of life, health, comfort, and progress in the household of man, without an abundant supply of which, large communities or great cities would be an impossibility; without which the City of New York would never have become what it now represents, much less what it is yet destined to be after the lapse of a few decennials more. Strewn over and imbedded in the surface of the ground above described, are a continuation of chains or coronals of hills, with sometimes steeper, sometimes more slanting slopes, the latter uniting at their bases in the formation of almost numberless glens, dales, and valleys, each of them harboring a brook, rivulet, river, pond, or lake of pure and fresh water, most of which is carried by means of natural and artificial outlets and courses, to either of the three branches of the Croton river (eastern, middle, and western branch), and finally to the Croton Lake. To impress one still more forcibly as to the wonderful adaptedness of that region to serve as the great water reservoir of the metropolis of the land, the peculiar feature is noticed that the soles of none of these many fresh-water receptacles are of less than 450 feet elevation above tide-water, occasionally rising to 600 feet and over. Without this uniform and considerable elevation above tide-water of its supply-stores, the City of New York, in order to avail itself of the latter, would probably have been necessitated to spend ten times the amount of its present outlay on engineering and water-works. The ponds and lakes, with an area of from 60 to over 600 acres, seventeen of which were visited, have all of them sandy and gravelly beds, scarcely any perceptible vegetable growth on their surface, perfectly clear water (notwithstanding the then abounding rain showers), and are of great depth, varying from 30 to over 100 feet. Thus, water taken, for instance, at a depth of 80 feet from Lake Gilead, was found as cool as if the bottle had been on ice. The circumstance that rain-falls do not render muddy the water of these ponds and lakes, is easily explained, and we are by this explanation made to understand another of the rare virtues of the region to supply the great city with water. The geological character of the country through which we passed on our tour, is *granitic* throughout;

and wherever the eye does not meet solid rocks, it meets meadows, pastures, and woods; alluvial ground is rarely found, and the tilled land, in Putnam county, in particular, does not occupy the one hundredth part of its surface. There is, consequently, extreme scarcity of material by means of which the water could be made muddy. This peculiarity, in a geological aspect, also accounts for the fact that *milk* is not only the principal, but almost the sole produce coming from that region to market. It is scarcely necessary to add, that these characteristics of the granite land do not offer any inducements for the establishment of factories through which our water could be spoiled; and, in reality, outside a few grist and saw mills, a sash and blind factory, and some condensed-milk factories, nothing in that line could be discovered. A tannery, once in operation at Brewster's, has ceased to work. The peat-bogs were found fewer, and far less extensive than was expected. The occasional abrasion and carrying off of particles of peat, or the slight coloring of small streams of water by means of dissolved humic or ulmic acids, need not alarm any person, as they are either deposited or decomposed before the Croton is used, or would not injure if still present; such infinitesimal a quantity they would form of the dissolved constituents of the body of the water, that the most subtle chemical tests would not but as mere "organic matter" establish their presence. The fact, therefore, already repeatedly established by chemical research, that New York City, above all other large cities on the surface of the earth, is enjoying the inestimable boon of an abundance of pure and wholesome water, is most positively corroborated and confirmed by this our visit to the Croton sources and drainage ground.

In conclusion, I may be permitted to express my acknowledgments to the officers of the Department of Public Works accompanying us, for their kind attention and most intelligent guidance.

REPORT OF ANALYSES OF CROTON WATER, BY C. F. CHANDLER, PH. D.

The sample was drawn on the 11th of May, and was submitted to a very careful chemical analysis, the results of which are recorded in column No. 1. In column No. 2 are the results of a similar analysis, which was made in 1869, which is appended for comparison. The numbers indicate grains in one United States gallon.

SOLIDS CONTAINED IN ONE GALLON OF CROTON WATER.

(Expressed in Grains.)

	May 11, 1872.	Summer of 1869.
Soda	0.157	0.326
Potassa	0.109	0.097
Lime	0.819	0.988
Magnesia	0.369	0.524
Chlorine	0.172	0.243
Sulphuric Acid	0.124	0.322
Silica	0.222	0.621
Alumina and Oxide of Iron	0.058	Trace.
Carbonic Acid, (calculated)	2.074	2.604
Water in Bicarbonates (calculated)	0.421	0.532
Organic and Volatile Matter	0.874	0.670
	5.399	6.927
Less Oxygen, equivalent to Chlorine	0.039	0.054
Total Solids in Solution	5.360	6.873
Suspended Impurities	0.175	Not n't'ceble.
Total Solids	5.535	6.873

These acids and bases are probably combined in the water, as follows:

	May 11, 1872.	Summer of 1869.
Chloride of Sodium	0.284	0.402
Sulphate of Potassa	0.205	0.179
Sulphate of Soda	0.024	0.260
Sulphate of Lime	0.024	0.158
Bicarbonate of Lime	2.331	2.670
Bicarbonate of Magnesia	1.338	1.913
Silica	0.222	0.621
Alumina and Oxide of Iron	0.058	Trace.
Organic Matter	0.874	0.670
Total Solids in Solution	5.360	6.873

On evaporating a gallon of water, a somewhat smaller residue is obtained, as the bicarbonates of lime and magnesia are left as simple carbonates. The result was as follows :

	May 11, 1872.		Summer of 1869.
	Filtered.	Unfiltered.	Unfiltered.
Inorganic Matter	2.799	2.916	4.110
Organic and Volatile Matter	.875	.938	.670
Total Solids	3.674	3.849	4.780

The character of the suspended impurities, which are those apparent to the eye, which form the sediment which separates on standing, and which have created the popular feeling that the water is very impure, was determined by several tests. The unfiltered and filtered waters were tested side by side, as shown in the figures last given, by which it appears that—

	Inorganic Matter.	Organic and Volatile Matter.
Unfiltered Water contains	2.916 Grains.	0.933 Grains.
Filtered Water contains	2.799 "	0.875 "
Suspended Impurities contain	0.117 "	0.058 "

The composition of the suspended matter is then, after drying—

	Per Gallon.	In 100 Parts.
Inorganic Matter	0.117 Grains.	66.85
Organic and Volatile Matter	0.058 "	33.15
Total	0.175 Grains.	100.00

By means of one of the "Curtis and Bigelow" sponge filters, attached to the faucet in my laboratory, the suspended matter from fifty barrels or more of water was collected for examination. It was of a deep green color, of very little odor, and not at all offensive, and, examined under the microscope, was found to consist largely of vegetable matter, chiefly confervæ, or "green scum." Associated with this vegetable matter, were particles of sand, clay, and iron rust. A few of the common animalculæ usually found in the Croton were observed. On drying the sediment and exposing it to an elevated temperature, the organic portion was destroyed, emitting an odor of burning fat or oil (acrolein). The residue, after burning off the organic matter, was found to consist chiefly of clay, fine sand, and oxide of iron, the latter probably derived from the mains.

It will be seen, on comparing the two analyses which are presented, that the water is now purer, as far as the dissolved impurities are concerned, than it was in 1869. This is probably to be attributed to the season. In the summer the rain passes into the soil, and is filtered before it reaches the streams, thus coming in contact with the earthy and saline matters of the soil, and dissolving them to a greater extent than in winter and spring, when a large proportion of the rain and snow water runs over the surface of the impenetrable ground, from which the frost has not yet escaped. This also accounts for the increase in the suspended impurities. We have seen that they contain two thirds their weight of clay, fine sand, and oxide of iron; most of this would have been removed before the waters reached the streams could the water have penetrated the gravels and sands, and been filtered. The vegetable portion of the sediment consists largely of the debris of last year's verdure, which has been washed into the streams. The peculiar odor noticed when the sediment was heated, does not necessarily indicate the presence of animal matter. Some years since, when the water was in a much more offensive condition than at present, Dr. Torrey examined it very thoroughly, and found the peculiarities to be caused by unusual quantities of vegetable matter, containing an oily fat. That no large amount of organic matter is undergoing decay, is shown by the fact that the soluble organic and volatile matter contained in a gallon of filtered water, amounts to only one fifth of a grain more than usual, and much less than is contained in many excellent waters. Twice the quantity of soluble organic and volatile matter would not be objectionable.

These sediments consist, then, of clay, fine sand, vegetable debris, the scourings of the whole area of the water-shed, with certain aquatic plants, a few animalcules, and iron rust from the mains. They amount, in a dry state, to less than one fifth of a grain per gallon. I have seen nothing to indicate the presence of decaying animal matter of any kind, nor do I believe that there is any cause whatever for alarm on the part of our citizens.

The application of the terms foul, putrid, miasmatic, etc., etc., are entirely unwarranted by the condition of the water. This temporary difficulty is one we are liable to suffer every spring, to a greater or less degree, according to the character of the season. The suspended matter is harmless, and of such a character that it can be easily removed by a filter.

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REPORT

OF THE

SANITARY COMMITTEE

ON THE EFFECTS OF HIGH TEMPERATURE UPON THE PUBLIC HEALTH OF NEW YORK, AND ON MEASURES OF PREVENTION.*

BY STEPHEN SMITH, M. D.

The Sanitary Committee, in compliance with the following resolution:

> *Resolved,* That the Sanitary Committee be, and is hereby requested to examine into the causes of the high death rate in New York during the summer quarter, and report what measures, if any, in their judgment, will reduce the mortality.

Respectfully submit the following report:

One of the most prolific sources of a high sickness and death rate in New York is developed during the summer quarter. It is a matter of common observation among physicians that diseases are not only more frequent, but are also more fatal in the city during the months of June, July, August, and September, and especially during July and August, than during the other months of the year. The records of the Health Department for these months show a large increase of deaths from nearly all diseases, except, perhaps, acute affections of the respiratory organs. The effect of this increased death rate during the summer months upon the total mortality of the year, is very striking. The death rate of New York varies from 28 to 32 in the 1,000 population; the mortality being from 26 to 32,000. If, however, the course of mortality did not fluctuate, but continued the same average for the summer quarter as for the remaining three quarters of the year, the total mortality would be reduced to 23 to 25,000, which would give a death rate of about 24 in each 1,000 population. In other words, not far from 3 to 5,000 persons are annually destroyed in New York by fatal agencies which are engendered during the summer months. It becomes, therefore, a matter of the utmost importance to the public health to determine, and if possible remedy the unhygienic conditions which are quickened into such fatal intensity and activity during the hot season of the year.

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* The delay in publishing this report has enabled the author to select illustrations from the records of 1872, which are more striking than for the year 1871.

The following table illustrates the mortality of the months of high temperature compared with that of the cooler months. It will be seen that the death rate is much greater during the months of May, June, July, August, September, and October, except diseases of the respiratory organs; the maximum being attained in July.

TABLE OF MONTHLY MORTALITY FOR 1871.

Date.	Diarrhœal Diseases.				Consumption.	Diseases of the Respirat'y System.	All Zymotic Diseases.
	Under 1 Year.	Under 2 Years.	Under 5 Years.	All Ages.			
January............	50	55	58	82	333	366	541
February	47	51	56	75	385	336	475
March	75	80	83	96	407	365	476
April..............	82	91	97	108	371	396	554
May	101	117	121	140	345	316	584
June...............	387	430	436	467	292	168	798
July	809	990	1020	1100	337	145	1433
August	464	565	687	762	317	146	1126
September	267	394	409	462	328	216	791
October............	114	148	154	190	345	275	522
November	59	70	72	89	308	264	460
December..	57	62	64	82	359	330	504

If we carefully compare the daily mortality and temperature record of any year, we find a remarkable correspondence during the summer months between them. As the temperature rises or falls, the mortality gradually increases or declines; the temperature, however, generally maintaining the advance in the fluctuation. The mortality record follows the fluctuations of the heat record with as much precision as effect follows cause.

In the following table the temperature and mortality records are given for the months of June, July, and August, 1871. The record of humidity is also added, with the conditions of the sky and atmosphere.

DAILY METEOROLOGICAL RECORD AND MORTUARY REPORT,

From June 1st to August 31st (inclusive), 1871.

Day of Month.	Thermometer.		Humidity.	Sky and Atmosphere.	Deaths.
	Shade.	Sun.	Saturation represented by 100.		
1871.					
June 1	65° 33′	109° 0′	74 76	Light clouds	63
" 2	70 00	106 5	73 43	Light clouds	59
" 3	78 66	115 3	64 30	Light clouds	76
" 4	76 00	119 2	64 60	Thunder shower 6 P.M.	71
" 5	74 96	116 0	49 50	Light clouds	66
" 6	68 66	115 0	67 40	Light clouds	62
" 7	74 66	108 0	75 56	Cloudy A.M.; 3 thunder showers eve.	67
" 8	75 66	101 0	49 56	Light clouds	67
" 9	68 60	109 0	44 00	Light clouds	49
" 10	66 23	106 5	66 20	Light clouds	58
" 11	70 00	98 0	78 26	Clear A.M.; slight rain P.M.	45
" 12	65 73	101 5	67 03	Rain A.M.; cloudy and slight rain P.M.	74
" 13	73 00	117 0	41 50	Slight rain A.M.; light clouds P.M.	78
" 14	67 43	117 0	40 30	Light clouds	66
" 15	65 10	97 0	67 13	Rain A.M.; thunder shower 6 P.M., and two rainbows	68
" 16	65 56	117 0	37 20	Light clouds	60
" 17	65 00	100 5	43 53	Light clouds A.M.; heavy clouds eve.	66
" 18	63 00	89 0	80 10	Rain; earthquake 9.50 P.M.	87
" 19	66 50	107 0	58 70	Cloudy A.M.; light clouds P.M.	69
" 20	74 93	111 0	62 23	Clear A.M.; rain P.M.; lightning eve.	79
" 21	68 83	109 5	46 53	Light clouds	59
" 22	65 83	109 0	59 40	Light clouds	64
" 23	74 33	115 0	58 40	Light clouds	65
" 24	62 50	90 0	71 10	Rain A.M.; thunder shower eve.	80
" 25	65 50	109 0	60 83	...	73
" 26	70 10	110 5	65 53	...	101
" 27	72 30	110 5	63 96	Light clouds	80
" 28	73 00	107 0	70 36	Cloudy and rain; thunder shower P.M.	103
" 29	68 10	108 0	42 96	Cloudy A.M.; clear P.M.	84
" 30	64 66	106 5	40 10	...	87
July 1	66 63	94 0	55 40	Light clouds	91
" 2	73 00	98 0	63 68	Cloudy; lightning evening	117
" 3	71 30	100 0	83 50	Thunder shower A.M.; cloudy & rain P.M.	94
" 4	71 86	109 0	78 13	Cloudy and light rain	90
" 5	77 33	116 0	64 26	Light clouds	100

DAILY METEOROLOGICAL RECORD AND MORTALITY REPORT,

FROM JUNE 1ST TO AUGUST 31ST (INCLUSIVE), 1871.

Day of Month.	Thermometer.		Humidity.	Sky and Atmosphere.	Deaths.
	Shade.	Sun.	Saturation represented by 100.		
1871.					
July 6	76° 46′	114° 5′	66 36	Cloudy and light rain; thunder shower in night	115
" 7	79 98	118 7	46 13	Light fleecy clouds	125
" 8	77 00	117 0	44 43		125
" 9	81 00	111 8	52 60	Clear A.M.; cloudy P.M; thunder shower evening	99
" 10	83 00	120 5	53 20		125
" 11	78 70	112 5	70 03	Cloudy A.M.; thunder showers P.M.	108
" 12	79 66	116 5	63 80	Light clouds	162
" 13	78 83	116 0	56 00		126
" 14	75 33	107 0	73 43	Slight rain A.M.; clear evening	107
" 15	79 86	116 0	68 80	Light clouds; violent thunder storm 2 P.M.	95
" 16	75 00	111 6	71 66	Clear A.M.; thun. shower, hail, &c., P.M.	110
" 17	70 06	116 5	50 16	Light clouds	83
" 18	74 66	112 0	38 63		89
" 19	68 66	74 0	84 43	Rain and misty	92
" 20	69 36	109 0	55 76		96
" 21	68 00	110 0	55 50	Light clouds A.M., thunder shower, &c.	83
" 22	66 50	109 0	49 76		87
" 23	69 33	113 0	51 16		80
" 24	69 56	114 4	58 63	Light hazy clouds; three parhelia	94
" 25	64 00	78 0	76 53	Rain from 9.30 A.M.	78
" 26	68 53	94 0	78 20	Rain A.M.; light clouds P.M	73
" 27	73 86	110 5	62 10	Slight rain A.M.; parhelion thunder shower 11 P.M	75
" 28	72 50	107 5	72 26	Showers, thunder shower, and rainbow sunset	83
" 29	69 43	77 0	84 73	Rain A.M.; cloudy	62
" 30	71 60	109 0	78 86	Light clouds	122
" 31	71 83	107 0	71 96	Rain; thun. showers; light clouds eve.	96
Aug. 1	72 06	108 5	61 93		108
" 2	75 16	111 0	67 06	Light clouds; meteor 9 P.M.	89
" 3	79 83	115 5	65 06		79
" 4	78 20	114 0	79 43	Clear A.M.; thunder showers P.M. and night	84
" 5	80 50	114 0	65 53	Thunder shower, then clear	85
" *6	77 07	....	30 017		92
" *7	74 02	....	30 100		84
" *8	78 07	....	29 871		112
" *9	75 00	....	29 986		83

DAILY METEOROLOGICAL RECORD AND MORTUARY REPORT,

From June 1st to August 31st (inclusive), 1871.

Day of Month.	Thermometer.		Humidity.	Sky and Atmosphere.	Deaths.
	Shade.	Sun.	Saturation represented by 100.		
1871.					
Aug. *10	73° 01′	....	30 025	....	96
" *11	74 07	....	29 989	....	74
" *12	77 02	....	30 018	....	103
" *13	71 05	....	30 102	....	73
" *14	73 04	....	30 122	....	70
" *15	77 09	....	30 075	....	81
" *16	77 04	....	29 936	....	100
" *17	72 06	....	29 983	....	67
" *18	73 01	....	29 970	....	75
" *19	66 09	....	30 003	....	71
" 20	70 00	99 5	64 26	Light clouds	72
" 21	71 16	107 0	58 73	Cloudy	67
" 22	68 66	106 0	72 16	Cloudy	70
" 23	68 66	76 5	75 36	Cloudy A.M.; thunder shower night	77
" 24	77 66	111 0	80 43	Rain A.M.; light clouds P.M.	102
" 25	72 33	93 0	80 40	Thunder shower P.M.	84
" 26	75 50	110 0	84 30	Heavy rain and wind	80
" 27	79 83	115 0	71 90	Rain A.M. and in evening	105
" 28	74 16	110 0	71 06	Rainy daylight	76
" 29	76 33	112 0	85 06	Cloudy most of the day	81
" 30	74 26	83 0	82 66	Rain; rainbow at sunset	60
" 31	69 16	110 0	49 73	Light clouds	69

The following table contains the mortality and temperature records of the months of June, July, and August of 1872. They were remarkable for high temperature, and an excessive mortality from sun-stroke. The general mortality was also correspondingly great, giving a larger total mortality for the year than any previous year in the history of the city.

DAILY METEOROLOGICAL RECORD AND MORTUARY REPORT,

From June 1st to August 31st (inclusive), 1872.

Day of Month.	Thermometer.		Humidity	Sky and Atmosphere.	Deaths.
	Shade.	Sun.	Saturation represented by 100.		
1872.					
June 1	64° 88′	107° 0′	44 33	Clear A.M.; rain evening	90
" 2	63 66	107 0	40 30		85
" 3	65 00	102 0	48 33	Light clouds	64
" 4	60 16	70 0	76 13	Cloudy A.M.; rain P.M	84
" 5	55 90	64 0	82 86	Rain (interrupted)	78
" 6	68 16	108 0	52 48	Cloudy	57
" 7	62 66	74 0	76 83	Rain P.M.	82
" 8	71 33	100 0	80 36	Thunder shower 5 A.M.; clear evening.	98
" 9	74 50	114 0	70 66		74
" 10	74 50	100 0	78 83	Rain A.M.; cloudy P.M	89
" 11	75 66	113 0	68 70		85
" 12	78 50	116 0	71 86	Clear A.M.; thunder shower, light eve.	93
" 13	76 33	114 0	68 70	Light clouds, haze evening	98
" 14	74 53	114 0	72 46	Clear A.M.; thunder shower and tornado P.M.	87
" 15	71 00	110 0	73 26	Cloudy	89
" 16	70 83	111 0	75 50	Cloudy A.M.; clear evening	83
" 17	73 26	118 0	70 20	Flying clouds	81
" 18	75 33	118 0	68 86	Light clouds	92
" 19	78 33	116 0	65 20	Light clouds	83
" 20	80 43	119 0	65 16	Light clouds	100
" 21	82 33	117 0	66 40	Light clouds; slight rain 3 A.M	122
" 22	80 43	118 0	78 60	Light clouds	116
" 23	77 50	120 0	77 23	Light clouds	104
" 24	68 66	91 0	88 73	Cloudy all day	119
" 25	65 73	71 0	97 23	Rain	88
" 26	69 16	98 0	94 06	Rain A.M.; cloudy and mist P.M.	102
" 27	71 90	105 0	97 50	Fog early; flying clouds	113
" 28	80 33	118 0	79 20	Light clouds	118
" 29	84 00	120 0	85 48	Thunder shower north of us	163
" 30	85 83	124 0	80 90	Flying cumulous clouds	191
July 1	88 16	125 0	77 50	Flying cumulous clouds; lightning eve.	247
" 2	87 66	128 0	83 93	Flying cumulous clouds	351
" 3	82 16	120 0	72 28		238
" 4	84 33	122 0	70 30	Clear A.M.; thunder shower 6 P.M.	227
" 5	80 66	121 0	77 03	Light clouds, thunder shower, and rainbow	184

DAILY METEOROLOGICAL RECORD AND MORTUARY REPORT,

From June 1st to August 31st (inclusive), 1872.

Day of Month.	Thermometer.		Humidity	Sky and Atmosphere.	Deaths.
	Shade.	Sun.	Saturation represented by 100.		
1872.					
July 6......	79° 00′	118° 0′	63 16	Light clouds	153
" 7......	78 00	121 0	70 76	Light clouds; almost rain P.M.........	132
" 8......	78 00	111 0	76 23	Light clouds; almost rain P.M..	148
" 9......	77 83	114 0	82 66	Light clouds	175
" 10......	80 00	115 0	86 76	Thunder showers P.M. and night......	145
" 11......	82 66	123 0	76 80	Light clouds	141
" 12......	78 70	95 0	81 90	Light showers A.M. and P.M...........	132
" 13......	76 66	115 0	86 16	Light showers P.M........	149
" 14......	81 33	118 0	70 50	Light fleecy clouds.	123
" 15......	80 06	113 0	89 90	Cloudy A.M.; two thunder showers P.M.	129
" 16......	80 66	114 0	88 20	Flying clouds	148
" 17......	84 66	120 0	84 83	Flying clouds; lightning evening.....	133
" 18......	77 10	106 0	87 36	Cloudy and some rain	130
" 19......	78 66	119 0	78 06	Light clouds; beautiful sunset	120
" 20......	76 50	111 0	69 40	Light clouds	111
" *21......	73 07	110 0	81 00	....	105
" *22......	73 01	115 0	72 00	Rain P.M.	118
" *23......	72 01	104 0	72 00	....	105
" *24......	71 05	116 0	74 00	Rain A.M.	129
" *25......	75 00	116 0	82 00	....	97
" *26......	71 00	116 0	84 00	Rain A.M.	115
" *27......	72 00	114 0	51 00	....	99
" 28......	75 66	111 0	46 33	Light clouds	104
" 29	77 16	112 0	69 20	Light clouds	128
" 30......	76 16	117 0	53 80	Cloudy	95
" 31.. ...	70 50	78 0	81 13	Rain	103
Aug. 1	70 16	108 5	72 23	Light clouds	88
" 2......	70 33	79 0	89 80	Cloudy	89
" 3......	75 50	112 0	71 63	Light clouds; aurora borealis.........	82
" 4......	69 50	104 5	75 60	Rain; thunder showers	80
" 5......	72 33	114 0	74 20	Cloudy	82
" 6......	73 16	105 0	62 63	Light clouds.........................	100
" 7......	75 83	114 0	78 96	Light clouds A.M.; clear P.M..........	105
" 8......	81 00	115 0	64 20	Clear; aurora borealis splendid.	105

* From observations taken by Professor Draper, of Central Park Observatory.

DAILY METEOROLOGICAL RECORD AND MORTUARY REPORT,

From June 1st to August 31st (inclusive), 1872.

Day of Month.	Thermometer.		Humidity	Sky and Atmosphere.	Deaths.
	Shade.	Sun.	Saturation represented by 100.		
1872.					
Aug. 9	75° 00′	115° 5′	66 70		106
" 10	79 16	115 0	72 13	Light clouds; rain slight	94
" 12	79 66	117 0	72 86	Clear A.M.; lightning evening	97
" 12	81 10	119 0	72 06	Light clouds A.M.; thunder shower P.M.	106
" 13	81 83	115 0	79 40	Rain A.M.; slight thunder shower 9 P.M.	121
" 14	83 86	119 0	73 10	Light clouds	113
" 15	82 46	121 0	68 20	Light clouds A.M.; two thunder showers P.M	126
" 16	75 03	80 0	87 36	Rain	106
" 17	80 10	115 0	75 40	Showers A.M.; light clouds P.M.; clear evening	104
" 18	80 16	119 0	69 23	Clear	102
" 19	82 26	119 0	75 20	Clear A.M.; thunder shower 12 M.; cloudy	126
" 20	75 83	107 0	84 86	Thunder shower early; cloudy all day.	121
" 21	78 76	114 0	81 83	Flying clouds	96
" 22	79 50	120 0	80 33	Clear A.M.; two thunder showers after 6 P.M	120
" 23	78 00	120 0	62 03	Clear	91
" 24	76 56	120 0	66 73	Clear	89
" 25	75 83	115 0	61 60	Clear	87
" 26	77 06	120 0	82 43	Light clouds	104
" 27	76 10	115 0	76 43	Light clouds	110
" 28	72 16	117 0	60 23	Light clouds	86
" 29	65 83	102 0	83 60	Rainy	95
" 30	66 40	117 0	75 90	Rain early, then light clouds	65
" 31	62 33	100 0	70 90	Flying clouds	82

An examination of the preceding tables leads to the conclusion, that heat is the principal, if not the sole exciting cause of the excessive summer mortality in New York.

Authorities who have most thoroughly studied the causation of insolation or sun-stroke, regard heat as the chief or only element.

Oberniem,* "from observation of four cases of sun-stroke, and from thirty-three experiments on animals exposed to artificial heat, traces all the effects to the augmented temperature of the body, which cannot cool by evaporation from the surface and lungs, as usual. He puts down as necessary conditions, a high external temperature; internal conditions, as of marching, running, which augments bodily heat, and the absence of water."

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* Parkes' Hygiene.

Wood,* in his interesting study of sun-stroke, regards heat as the sole exciting cause of this affection. He says: "In regard to the etiology of the disease, my own experience is, that the only absolutely necessary, and the ever-present, immediate cause, is heat, solar or artificial."

Humidity does not appear to exert any very marked effect upon mortality. There can be no doubt that great humidity diminishes evaporation from the surface of the body, and to that extent interferes with the process of cooling; but as an element affecting mortality, it has not proved important. Mac Lean remarks: "There is no agreement among observers as to the effects of extreme dryness or moisture in increasing or diminishing the effects of heat. Insolation has been observed in both conditions." He adds: "It cannot be doubted that heat, and, speaking generally, heat long continued, is the true exciting cause of this formidable affection."

In order to fully understand the influence of heat and its effects upon the public health, we must first inquire as to the conditions regulating the temperature of the body in health and disease.

I.—TEMPERATURE OF THE ANIMAL SYSTEM IN HEALTH.

Normal Temperature of the Body.—The temperature of the animal system in a state of health is not a fixed quantity. It has a certain limited range, which depends upon internal and external conditions not at variance with health or the physiological state of the animal under consideration. This range seems to be less in man than in other warm-blooded animals.

The range of temperature in man in health, as established by careful experiment, is fixed at 97.25° F. to 99.5° F.† Any degree of temperature above or below these extremes, unless explained by special circumstances not affecting the normal condition of the person, is suspicious of disease. This comparatively fixed temperature in health is a remarkable feature of the living animal. It may be subjected to a temperature much below, or much above the extremes given, and still maintain this equilibrium by means of processes of compensation inherent in its constitution. The production of heat in the body is the result of chemical agencies, operating in the digestion of food, and in tissue changes. In the healthy adult animal waste and supply are so nicely balanced, that whatever the amount of food taken, the previous weight of the individual will be regained in twenty-four hours. Hence the degree of special heat produced normal to the animal will be maintained with slight variations under unvarying circumstances. But this fixed temperature is maintained also by the constant loss of heat. This loss takes place by radiation from the surface, by transmission to other bodies, by evaporation, and by the change or conversion of heat into motion. The surface of the body furnishes the principal medium for the loss of heat by the first three methods, viz., radiation, transmission, and evaporation. It is from the skin that heat is radiated from the body into the surrounding air,

* *Thermic Fever.* Philadelphia, 1872.

† Wunderlich's Thermometry.

that it is conducted to colder objects, and that the evaporation of an immense secretory surface takes place.

It is estimated that 93.07 per cent. of the heat produced, escapes by the process of radiation, evaporation, conduction, and mechanical work. (*Barral.*) The remaining heat units are lost by warming inspired air and the foods and drinks taken, and by the loss in urine and fæces. This balance in the production of heat is so nicely balanced in man, that the range of normal temperature is very slight, being only about three degrees. There are apparently other subtile influences ("regulators of warmth") at work to preserve this temperature equilibrium, which are not well known. For if the production of heat is by any means increased, compensative losses of heat quickly occur, and the equilibrium is soon restored. And if the loss of heat is unusually increased, the compensative production soon begins, and the equilibrium is again effected. The important fact to be borne in mind is that in the human organism, when in health, and not subjected to too violent disturbing causes, the production and loss of heat are so balanced, that the temperature is maintained at an average of 98.6° F., the extremes being 97.25° F. and 99.5° F.

"The temperature of the body," says Parkes, "is the result of the opposing action of two factors: 1st, of development of heat from the chemical changes of the food, and by the conversion of mechanical forces into heat, or by direct absorption from without; and 2d, and opposed to this, of evaporation from the surface of the body, which regulates internal heat. So beautifully is this balance preserved, that the stability of the animal temperature in all countries has always been a subject of marvel. If anything, however, prevents this evaporation, * * * then, no doubt, the temperature of the body rises, especially if, in addition, there is muscular exertion and production of heat from that cause. The extreme discomfort always attending abnormal heat of the body then commences. * * * In experiments in ovens, Blagden and Fordyce bore a temperature of 260° with a small rise of temperature (2½° F.); but the air was dry, and the heat of their bodies was reduced by perspiration; when the air is very moist, and evaporation is hindered, the temperature of the body rises rapidly; even 7° to 8° F."

Condition Affecting the Temperature of Healthy Persons.—It is important to notice some of the conditions which most affect the temperature of persons in health.

Age.—The temperature of the young and of the very old is higher than the middle aged. The infant at birth has a temperature of from 99° F. to 100° F., and it maintains a temperature of 99° and upwards for several days. The variations of temperature from other causes are much greater in children than in adults, as also are the normal daily variations of temperature. About the sixtieth year the average temperature of man begins to rise, and at the eightieth year it resembles that of childhood. This rise of temperature in the aged in whom the heat-producing conditions are feeble, is conjectured to be due to diminished loss of heat from the skin, owing to a less supply of blood.

Daily Variation.—It is an established fact that the bodily temperature has a regular diurnal variation. The lowest temperature is in the morning, and the highest in the afternoon. The daily maximum occurs between 4 and 9 P. M., and the daily minimum between 2 and 8 A. M. The lowest temperature is about 6 A. M., and from that time the temperature rises until late in the afternoon. (*Ogle.*)

Rest and Activity.—In sleep the variations of temperature are reduced to their minimum. Although there is an apparently wide difference in the temperature of the body during rest and activity, yet it would seem that "the final difference of temperature during rest and during labor, is extremely trifling." (*Wunderlich.*) This appears to be due to those compensating actions, "regulators of the temperature," or modifying conditions on which an equilibrium of temperature is maintained in health. During labor large quantities of cold air are inspired, and cold drinks imbibed, evaporation from the surface goes on more rapidly, and given quantities of heat are converted into muscular force or action. Thus, though the production of heat is greater in labor than in rest, yet the loss of heat is correspondingly increased, and the equilibrium of temperature is, if not maintained, very quickly restored.

Decomposing Substances.—The introduction into the blood of decomposing substances, as pus, animal matters, and the products of fever and inflammation, give rise to elevation of temperature. When putrid matters are injected under the skin of animals, there is a rise of temperature, which reaches its maximum within twenty-eight hours, and is followed by a decline to the normal standard. But if this injection is repeated several times, death occurs with a high temperature. (*Billroth.*) The air of towns contains emanations in hot weather from all the sources of animal and vegetable decomposition, and the inhalation of air so vitiated, brings in contact with the blood the products of decomposition in a highly divided state. The breath is charged with organic matters to which heat imparts the same activity. The air in close and heated places, as in tenement houses, workshops, school-houses, hospital-wards, and other rooms where many persons congregate for hours together, becomes charged with organic matters in addition to various gases. If the temperature of such places is increased, whether by the sun or by artificial means, these organic matters undergo decomposition with the production of poisonous agents, which give rise to fatal elevations of temperature among the young and old, and those enfeebled by disease.

Cold.—Cold is applied through a medium, as air, water, &c. Its direct effect is the abstraction of heat, but its secondary effect is the production of heat. As the cooling process goes on, the blood recedes from the skin, and is no longer exposed to the cold, and at the same time the external secretions are diminished. If the cold is withdrawn before the process of cooling has too much lowered the system, reaction takes place, the blood returns to the surface in larger quantities than before, and the temperature reaches a higher point than normal, but soon returns to its natural standard. If, however, the cold is intense and continued, the temperature will steadily sink, in spite of compensating agencies, and death will finally ensue. The depressing effects of cold air depends much upon the amount of moisture there is in it, and whether it is still or moving. Cold dry air is far less cooling than cold moist air; and cold air at rest, than cold air in motion. Cold, applied through the medium of water, is much more depressing than where air is employed, and running water abstracts heat much more rapidly than standing water.

Heat.—Heat, like cold, is applied through such agents as air, water, &c. When heat is applied we witness the same effort to preserve an equilibrium of temperature, as in the use of cold. While the primary effect of heat is to raise the temperature, the secondary effect is to cool the body by relaxing the blood-vessels of the skin, and thus inviting the blood to the surface, and in the same manner increasing the secretions and their evaporation. If, however, the heating process is continued beyond the power of the regulating forces to control the temperature, the heat of the body gradually rises, and death ensues when it reaches 110° to 115° F. Hot moist air is much more heating than hot dry air, partly owing to the diminished evaporation under the former circumstances, but chiefly on account of the direct application of heat through a more solid medium.

Baths.—The effect of bathing upon the heat of the body varies with the temperature of the bath. If the water is very cold the production of heat is greatly increased, and the temperature of the body is not diminished. If the bath is 68°–73° F. the production of heat is increased three or four times; if 86° F. it is twice the usual amount; if at blood-heat it is but slightly increased. (*Liebermeister.*) If, however, cold is applied locally, as to the hands, feet, nose, the temperature of the part may be reduced 6° or 7° F. A cold sitz bath will reduce the temperature of the whole body 2° F., but there is a rise after the bath. A hot bath is at first followed by a rise of temperature, and this is succeeded by a corresponding fall. The phenomena of temperature witnessed in the employment of baths are not yet fully explained. It is, however, sufficient for our purpose to notice that the cold bath at once rapidly abstracts heat from the body, and thus suddenly reduces temperature. It also constringes the vessels of the skin, and forces the blood to the internal organs, and while it thus removes the mass of blood from further contact with the cold medium, it stimulates to activity the functions of internal organs, and heat is produced as a secondary effect. A cold bath, therefore, first reduces temperature, and secondly elevates it above the normal standard, and the equilibrium is restored by a gradual return from an elevated to the normal temperature. A hot bath, on the contrary, first communicates heat, and thus elevates the temperature; but this is immediately followed by a relaxation of the skin and its vessels, the blood is withdrawn from the deeper organs, the secretions of the skin are increased, evaporation becomes active, and the cooling process gradually restores the normal temperature. A hot bath, then, at first elevates the temperature, secondly depresses it, and the equilibrium is restored by a gradual rise to the normal standard. "Every diminution and elevation of temperature which momentarily occurs through thermal application, is therefore only transient, and is speedily neutralized by the altered warmth production; * * a high temperature (of the body) commonly follows a cold bath; and after a warm bath, on the other hand, increased coolness is noticed; and in tropical countries, and very hot seasons, no means of cooling is so lasting as a bath or a douche of very warm water." (*Wunderlich*)

These are but few of the many examples which might be adduced to illustrate the nature of the agencies by which the normal temperature of the body is affected. It must be borne in mind, however, that whatever these agencies are, so long as the body is in a state of health, there is a regulating power that tends to preserve an equilibrium of temperature. However extreme the fluctuations may be, there are compensative functions and methods of adjustment capable of quickly restoring the normal condition.

It is very evident that in an organism having such complicated functions as that of man, and subject to such a multitude of adverse influences, the balance between health and disease must be very nicely adjusted. Too great an elevation or too great a depression of temperature, may destroy the "regulation power," and disease or death may be the consequence. Or, on the other hand, this "regulation power" may be weakened or destroyed by causes generated within the body, or received from without, and the heat-producing agencies are then under other influences, and may prove powerfully destructive forces.

II.—TEMPERATURE OF THE ANIMAL SYSTEM IN DISEASE.

It is important in this connection to notice also the effects of disease upon the temperature of the individual affected. And in the first place it may be stated that idiosyncrasy, or constitutional peculiarities, have a considerable influence upon the power of the system to regulate the temperature. The degrees of mean bodily temperature, which different persons maintain in health, aside from age, sex, and other pecularities, is not the same. This variability has been attributed to the special constitution or habit of body of individuals. If in any individual there is a diminished power of maintaining in health a normal mean temperature, we must conclude that when such persons are unduly exposed to agencies which increase the temperature of the body, as high solar or artificial heat, fatal effects must be the result; while persons of more power of compensation would pass unharmed. And still further, it must follow that those diseases which tend to destroy the agencies which regulate temperature, must act more promptly, and with much greater effect upon those of feeble constitution, than upon those who have great power of maintaining an equilibrium.

The first peculiarity which we notice in regard to temperature in disease, is that there are daily fluctuations, as in health, but much more extreme. It may be stated, in general, that the remission of temperature in diseases occurs in the morning, and the exacerbation in the afternoon and evening; the minimum is reached between 6 and 9 o'clock in the morning, and the maximum between 3 and 6 o'clock in the afternoon. In many diseases the minimum temperature is not below 98°, and generally is one or two degrees above that point, while the maximum has no definite limit, and may reach the dangerous height of 107°. It will be noticed that the exacerbation occurs in the afternoon, or that part of the day when the temperature of the air is at its maximum. The effect of various diseases upon the bodily temperature may be seen by the following illustrations: In typhoid fever it is 102° to 104°; in typhus fever, 102° to 104°; eruptive fevers, as measles, small-pox, &c., 102° to 104°; scarlet fever, 104°; pneumonia, 104°. (*Wunderlich.*) In some non-inflammatory diseases, it is true, the temperature may fall even as low as 71° and 72°. (*Roger.*)

When other conditions, therefore, than health exist, there must be greater liability to fluctuations of bodily temperature of a dangerous character, and hence, a predisposition to the effects of heat. If, for example, the secretions of the skin are diminished or prevented, the cooling process of evaporation is correspondingly diminished, and the power of preserving the normal temperature is markedly lessened. Simpson says: "Every man seized with sun-stroke, and who could answer questions, informed me that he had not perspired for a greater or less extent of time—sometimes not for days—previous to being attacked, and that he had enjoyed good health as long as he perspired, but that on this perspiration being checked he felt dull and listless, and unable to make much exertion without making a great effort." It was noticed that the heat of the surface became much increased. These predisposing causes are, therefore, very numerous, especially in cities and among the poor. We shall notice only two or three of the more important:

1. Exhaustion from fatigue, or overwork, especially in a heated atmosphere, powerfully predisposes to sun-stroke. By far the greater number of cases which enter hospitals in this city are laborers stricken down while at their work, late in the day. Marked examples of sun-stroke following fatigue are furnished among soldiers, especially in tropical climates.

2. Intemperance is an important predisposing element in a large number of cases of sun-stroke in this city. Although alcoholic liquors have the effect when first taken of lowering the bodily temperature, yet in habitual drinkers the power of regulating the temperature seems to be diminished, and the drunkard, whether soldier or civilian, is the first to fall a victim to high heat.

3. Persons confined in impure air, as in tenement houses, badly ventilated workshops, barracks, etc., suffer severely from the effects of heat. The air is charged with noxious impurities, gases, and organic matters, and is almost irrespirable. Carbonic acid, one of the most fatal poisons, exists in dangerous quantity; "the carbonic acid of the air increases with the activity of life, and with artificial warming and lighting, as well as with animal and vegetable de-

cay. * * It has been a question, if it really does any active harm, or is only negative to life. * * I am inclined to think that carbonic acid has an injurious influence in small amount."*

A review of the preceding facts warrant the following conclusions:

1st. The temperature of the human system is fixed in health at a mean of 98° F., and has a range of about three degrees, the equilibrium being restored by certain compensating functions. There is a daily fluctuation of temperature, the minimum being in the morning, and the maximum in the afternoon. This normal fixed temperature may be elevated or depressed by the temperature of the air to a point which will cause death. When the temperature is elevated, death may occur with all the symptoms due to heat.

2d. The temperature of the body is elevated in disease, the compensating functions or "regulation power," is weakened, and the morning and evening fluctuations are the same as in health. High external temperature much more sensibly affects the temperature of the sick, than the well, and may raise it to a point at which exhaustion or true sun-stroke may prove fatal.

3d. A temperature of 54° F. is the medium temperature of the air best adapted to the public health, for at that temperature the decomposition of animal and vegetable matters is slight, and the normal temperature of the human system is most easily maintained. Every degree of heat above that point, adds to the indirect and direct effects of heat upon the body. When the temperature is maintained at 70° F. and upwards, the indirect effects of heat become very marked upon the general mortality; and when it is maintained at 80° F. and upwards, the direct effects of heat are added to the indirect.

TABLE SHOWING THE RELATIVE MORTALITY WHEN THE TEMPERATURE IS ABOVE AND BELOW 70° F.

	1867		1868		1869		1870		1871		1872	
	Deaths.	Days	Deaths.	Days	Deaths.	Days	Deaths.	Days	Deaths.	Days	Deaths.	Days
Average daily mortality when the thermometer was above 70°, for the months of June, July, August and September	$75\frac{3}{4}$	64	$86\frac{11}{73}$	73	$77\frac{4}{37}$	74	92	86	$91\frac{4}{13}$	65	$117\frac{13}{43}$	86
Average daily mortality when the thermometer was below 70°, for the months of June, July, August and September	$61\frac{13}{29}$	58	$61\frac{11}{49}$	49	$64\frac{1}{6}$	48	$67\frac{2}{3}$	36	$56\frac{11}{57}$	57	$77\frac{3}{4}$	36
Average of total daily mortality for the months of June, July, August and September	$69\frac{9}{61}$	122	$76\frac{16}{61}$	122	$72\frac{1}{61}$	122	$84\frac{14}{61}$	122	75	122	$105\frac{41}{122}$	122

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* Angus Smith.

How High Temperatures Affect the Public Health.

We have next to consider in what manner high temperature affects the public health.

1. *Indirect Effects of Heat.*—The indirect effects of heat appear in the production of deleterious gases or vapors which vitiate the air, and render it more or less injurious to health. Decomposition of all forms of refuse animal and vegetable matter proceeds with far greater rapidity during the summer quarter than during other months of the year. And the rapidity of the decomposition depends upon the daily fluctuations of temperature.[*] As this putresence progresses, gases are evolved, which fill the air, and especially the stratum nearest the earth.

As many of these gases are proven to be poisonous, and productive of various forms of disease when inhaled, it follows that one source of increased summer mortality is due to the decomposition of the waste animal and vegetable matters, which, in the various forms of refuse, are so plentifully found in cities. Thus many of the diarrhœal diseases, fevers, and similar affections, are believed to have their origin at this period.

To these effects should be added the damage to food from continued high heat. Milk retailed through the city, the sole or chief diet of thousands of hand-fed infants among the poor, undergoes such changes as to render it not only less nutritious, but also hurtful to the digestive organs. The vegetables and fruits in the markets rapidly deteriorate, and become unfit for food; meats and fish quickly take on putrefactive changes, which render them more or less indigestible. Hence, with the rise of the summer temperature derangements of the digestive organs begin early to be manifest, first in infants and children, and subsequently in adults. As the season advances these affections, of various types and degrees of severity, become almost universally prevalent, and give to our sickness and death rate their immense preponderance during the summer quarter.

2. *Direct Effects of Heat.*—In the direct action of heat upon the human system we have the most powerful element in the production of our great summer mortalities. While fatal sun-stroke represents the maximum direct effect of solar heat upon the human subject, the large increase of deaths from wasting chronic diseases and diarrhœal affections; of children under one year of age, and persons upwards of 70 years of age; shows the sad effects of the prevailing heat upon all who are debilitated by disease or age. The derangements of the functions of the system which follow this pressure of external heat upon the normal conditions may extend to every organ of the body. The nervous system is rendered more susceptible; the digestive organs are enfeebled; the action of the heart is increased. The more immediate effects of heat upon the animal system have been made the subject of careful study, and should be noticed in this connection.

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[*] "I was led to consider one of the effects of heat when working on the gases of putrefaction. It was then perfectly clear that the putrefaction proceeded exactly as the temperature rose, not ceasing at a little above 138° F., perhaps approaching nearly 140° F."—Angus Smith, *Air and Rain*. London, 1872.

It is established that when solar or artificial heat is continually applied to the animal, the temperature of the body will gradually rise until all the compensating or heat regulating agencies fail to preserve the eqilibrium, and the temperature reaches a point at which death takes place. This degree of animal heat varies much with different species of animals, and with different animals of the same species. In the experiments of Wood* the temperature of rabbits dying from the effects of heat varied from 111° to 114°; in a dog it was 130¾°; and in a pigeon 120°. As the normal temperature of these animals is higher than that of man, it is not probable that the latter would survive the same high bodily temperature. In general, a temperature of 107° in any disease would be regarded as indicating an unfavorable termination. The following degrees of temperature have been recorded by different observers of persons suffering from sun-stroke, viz.: Dowler, 113°, 109°, 106°, 104°, and 110° after death; Levick, 109°, 109°, 106°, 105°, 112° after death; Wood, 108°, 109°, 104°, 106°, 109-110° after death.

Wood performed a series of experiments to determine the degree of heat required to destroy the functions of the brain, and concludes: 1. That a temperature of the brain of from 113° to 117° F. is sufficient, if maintained, to produce death in a short space of time in mammals, by arrest of respiration. 2. That the chief symptoms induced are insensibility and convulsions, preceded by exceedingly rapid respirations and action of the heart, and unaccompanied by any general rise of temperature. 3. That these symptoms come on very quickly in all cases, at times with absolute abruptness. He attributes the fact that a temperature of 113° to 114° F., is fatal to the brain of a cat, and 117° F. to that of a rabbit, to the difference in excitability of the nervous system of the two animals, and adds: "The brain of a man is much more highly organized, and no doubt correspondingly more sensitive than that of a cat, and if a temperature below 113° F., is fatal to the brain of a cat, whose normal temperature is 102½° F., it seems very certain that the temperature of some cases of insolation (113° F.) is sufficient in itself to cause death in man, whose normal temperature is 99° F."

The nature of the changes which heat produces when so applied as to produce dangerous or fatal results, has been variously explained by authors. But recent investigations seem to establish certain conclusions which it is important to notice. Oberniem gives two forms of sun-stroke, viz., the asthenic, where the elevation of the temperature of the body brings on early collapse; and sthenic, when the bodily temperature attains a great height, and then suddenly the attack comes on, with more or less reaction. In the former case there is a pale face and a copious sweating, and cold skin, (this is the heat asphyxia of some authors); in the other there is the red face, the injected eyes, the sobbing breathing, convulsions, delirium, &c.† The asthenic form here noticed is described by Wood as "exhaustion" by heat, and is quite different from the sthenic form, which he denominates "thermic fever."

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* Thermic Fever.

† Parkes' Hygiene.

In the first, or the ***Asthenic Form,*** high temperature proves injurious, and also fatal, by what is termed exhaustion. This effect is more often seen in persons feeble from debilitating diseases or age. The symptoms are those of extreme prostration; the pulse is quick and feeble; the skin is cool and moist; and the patient has the appearance of one suffering from fainting. The *post-mortem* examination reveals a relaxed condition of the heart.

In the second, or ***Sthenic Form, Insolation, Sun-stroke, Heat-stroke, Thermic Fever,*** it has been established that heat may cause death by its effects upon,—1st, the nervous centres; 2d, The muscular system; and, 3d, the blood. Wood applied heat directly to the heads of animals, and concludes from his experiments:—That symptoms come on very quickly in all cases, at times with absolute abruptness. "There is a marked resemblance of the nervous symptoms given in these cases, to those most noticeable in sun-stroke." The author remarks, however, that the general symptoms were not those of insolation; and this fact, in his opinion, proves that sun-stroke is not so much due to the direct effects of heat upon the head, as to the general rise of the temperature of the whole body. The effects of high heat upon the muscular system is believed by Vallin, to be due to the coagulation of the myosin muscular juice, which results in muscular rigidity. This accounts for the rigidity of the heart found after death from insolation, and the rapid *post-mortem* rigidity which always occurs in these cases. Wood concludes:—1. Excessive rigidity of heart due to a coagulation of its myosin, is a very pathognomonic lesion of sun-stroke. 2d. That in most cases it is a *post-mortem,* rather than an *ante-mortem,* phenomenon, occurring directly after death. 3. In certain cases, the so-called cardiac variety of sun-stroke, death is probably due to a sudden *ante-mortem* coagulation of the cardiac myosin and consequent instantaneous arrest of the heart's action. 4. That the muscles after death from heat fever, very soon become rigid, sometimes do so instantly, and that such rigidity is of the same nature as ordinary *post-mortem* rigidity. 5th. That while it is conceivably possible that death from asphyxia may occur from coagulation of the myosin of the diaphragm and other respiratory muscles, it is exceedingly probable that in man death never does actually occur from such causes." The changes found in the blood seem to be due to the effects of the fever induced by the heat. It is very dark owing to a diminished amount of oxygen, and is not coagulable.

Wood states that death from sun-stroke "is frequently due in a great measure to a slow, gradual deterioration of nerve, muscular, and hæmic organization; and in such cases the fatal result may be brought about without being caused by the temperature without, in other words, the lethal nerve heat point being reached."

CAUSES OF HIGH TEMPERATURE IN NEW YORK.

Observation has established the important fact, that the temperature of large and closely populated towns is higher than the surrounding rural districts. This is due to a variety of causes, the chief of which are the removal of vegetation, the drainage of the soil, and the covering of the earth with stone, bricks, and mortar; the aggregation of population to surface area; the massin together of buildings; and, finally, the vast multiplication of sources of artifici heat in dwellings, workshops, and manufactories. The difference between th mean temperature of the city at Cooper Institute and at the Arsenal, Centr Park, for a single month, illustrates this fact.

Another striking difference between the temperature of these two points observation is that the range is much greater at Central Park than at Coope Institute, the temperature falling at night more at the former than a the latter place. The effect of vegetation is to lower the temperatur at night, while brick and stone retain the heat and prevent any considerabl fall of temperature during the twenty-four hours. But New York has all the conditions of increased temperature above given intensified. It has a southern exposure; below Fifty-ninth street almost the entire surface is stone and brick; it is destitute of vegetation; its buildings are irregularly arranged, but crowded together so as to give the largest amount of elevation with the least superficial area; ventilation of courts, areas, and living-rooms, is sacrificed, and finally its population is crowded into ill-constructed buildings, some wards having the largest population to surface area of any city in the civilized world. These conditions necessarily cause a constant production of artificial heat of an unlimited amount. When the summer temperature begins to rise, it is so much constantly added to the amount of artificial heat already existing. The temperature of the whole vast mass of stones, bricks, and mortar gradually increases, with no other mitigation and modification than the inconstant winds and occasional rain-storms.

The effect of this increase of temperature upon the refuse and filth of the streets, courts, and alleys, upon the air in close places, and in the tenement houses, and upon the tenants themselves, is at once perceptible. The foul gases of decomposition fill the atmosphere of the city, and renders the air of the close and unventilated places stifling; while languor, depression, and debility fall upon the population like a wide-spread epidemic.

The course of sickness now changes, and the physician recognizes that a new element has entered into the medical constitution of the season. The sickly young, the enfeebled old, those exhausted from wasting diseases, whose native energies were just sufficient to maintain their tenure upon life, are the first to succumb to this new pressure upon their vital resources. Diarrhœal diseases of every form next appear, and assume a fatal intensity, and finally the occurrence .of sun-stroke, (or thermic fever), determines the maximum effects of heat upon the public health. The sickness records of dispensaries, and the mortality records of the Health Department, show that a new and most destructive force is now operating, not only in the diseases above mentioned, but also in nearly all the diseases present at that period.

Fevers, consumption in its later stages, and puerperal affections, all run a more rapid course, and are far less amenable to treatment.* Indeed, the

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* An eminent German physician has made the observation, that during the hot summer months ordinary fevers are far more fatal, owing to the addition of the heat of the air to the heat of the body.

Y AND MORTALITY

only safety is in flight from the city to the country, and to the coolest localities, as the sea-shore or the mountains. The change in the progress of these diseases, thus transferred from the city to the country, is often marvelous, and shows how fatal is the element of heat in its direct and indirect effect upon city life.

The following table of weekly temperature and mortality for 1872, is added as still further illustrating the preceding statements:

TABLE OF WEEKLY MORTALITY AND TEMPERATURE FOR 1872.

Date.	Diarrhœal Diseases.				All Diseases of the Nervous System.	All Diseases of the Respiratory System.	All Zymotic Diseases	Highest Range of Thermom'tr in Sun. Average Weekly.
	Under 1 Year.	Under 2 Years.	Under 5 Years.	All Ages.				
January 6........	13	14	14	17	39	60	104	63° 0'
" 13........	18	19	20	22	49	67	139	66 6
" 20........	18	21	21	25	49	77	137	61 5
" 27........	7	8	8	10	52	82	144	65 8
February 3........	16	16	17	22	57	99	171	55 7
" 10.......	12	13	14	21	72	95	171	64 2
" 17........	7	7	8	13	76	19	146	70 4
" 24........	9	9	9	12	58	113	167	78 3
March 2........	13	13	14	15	60	115	175	68 5
" 9........	10	10	10	15	81	129	146	61 1
" 16........	7	7	11	15	88	108	139	68 9
" 23........	21	21	21	25	91	112	183	65 5
" 30.... ...	12	14	14	15	77	113	187	73 5
April 6........	15	16	16	22	115	123	216	81 0
" 13........	20	24	24	27	101	99	235	74 9
" 20........	31	35	37	41	59	111	205	83 0
" 27........	31	32	33	35	77	88	232	97 0
May 4	20	24	25	28	61	130	208	93 7
" 11........	24	32	32	37	109	90	272	107 7
" 18........	31	32	32	34	72	82	234	101 3
" 25........	30	33	38	42	71	81	236	99 5
June 1........	28	32	32	35	65	54	282	97 7
" 8........	44	46	46	47	54	57	211	89 3
" 15........	52	55	59	65	60	48	241	112 0
" 22........	139	148	152	154	74	52	299	116 7
" 29........	245	285	291	300	71	39	438	103 3
July 6........	499	504	618	653	355	57	827	122 5
" 13........	362	438	448	481	91	39	585	113 4
" 20........	302	389	403	423	65	35	530	114 2
" 27........	219	287	298	329	61	27	421	132 0
August 3........	142	191	203	227	55	37	324	102 5
" 10........	139	188	199	220	51	34	320	111 8
" 17........	164	233	248	273	99	30	377	112 0
" 24	151	222	241	267	84	21	344	117 0
" 31........	95	153	166	182	48	32	263	112 3
September 7........	99	140	149	167	42	40	242	103 0
" 14........	91	122	127	142	49	45	236	106 0
" 21........	64	90	98	112	42	41	298	91 8
" 28........	55	80	81	94	52	33	285	96 3
October 5........	53	63	65	79	40	37	157	108 1
" 12........	42	59	60	70	44	46	169	97 3
" 19........	35	50	56	64	43	54	146	84 4
" 26...	35	49	51	56	44	65	149	82 3
November 2.......	21	32	34	47	78	72	129	89 4
" 9........	29	33	35	46	38	55	138	81 1

REMEDIAL MEASURES.

The question which we have to determine is, as to the best methods of protecting the present and future population of New York from the evil consequences of high summer temperatures. The facts regarding the temperature of the individual in health and disease, the conditions which influence the bodily temperature, and the direct and indirect effects of heat upon the animal system, suggest the necessity of securing, if possible, the following results:

First. The moderation of the temperature of the atmosphere.

Second. The daily regulation and equalization of bodily temperature by artificial means.

To accomplish the first object of equalizing the temperature of the city, the following measures are suggested:

First. The supply of an adequate number and variety of shade-trees.

Second. The introduction of water to such an extent as to admit of free flushing of all the streets and gutters daily.

I.—THE SUPPLY OF THE CITY WITH SHADE-TREES.

The sanitary value of trees has been greatly underestimated. With the most ruthless hand man has everywhere and at all times sacrificed this most important element in natural scenery. He has found, however, that by this waste of the forests, he has not improved his condition. The winters are colder, the summers hotter, the living springs cease to flow, the streams are disappearing, the earth is deeply frozen in winter, and parched in summer.* But what is of more serious importance, grave diseases, like consumption, typhoid, and other low forms of fever, diphtheria, diarrhœal affections, etc., become frequent and fatal. Unaware of the causes which have rendered an old homestead unhealthy, the occupant is often forced to find a more congenial home. Thus large areas of the globe have, by the destruction of the forests, been rendered almost uninhabitable. Other sections have, by the same vandalism, been reduced to the condition of barren wastes.

The sanitary effects of trees, so far as they relate to the subject of this paper, may be considered under the following heads:

First. Equalization of the temperature and humidity.

Second. Rendering innocuous deleterious malarial emanations from the soil.

Third. Purification of the atmosphere.

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* The question, however, remains unsettled how far the improvement of country districts by agriculture affects the temperature. From recent investigations by Daniel Draper, Meteorologist to the Park Commission, it appears, that in the vicinity of New York, Philadelphia, and Boston, the average general temperature has not changed during the last fifty years.

1.—*The Effect of Trees on Temperature and Humidity.*—It is a matter of common observation that the temperature in a forest, a grove, or even a clump of trees, is cooler in summer and warmer in winter than the surrounding country. Man and animals alike seek the shade of groves and trees during the heat of the day, and are greatly refreshed and revived by the cool atmosphere. The difference between the temperature of the air under and among the branches of a single tree, densely leaved, and the surrounding air, on a hot day, is instantly realized by the laborer or traveler who seeks the shade. The thermometer in the sun and shade shows a difference of 20, 30, and 40 degrees, and in the soil a difference of 10 to 11 degrees. The reverse is true in winter. The laborer and traveler exposed in the cold of the open country, find in the forest a degree of warmth quite as great as in a building but imperfectly inclosed. Railroad engineers inform us that they have occasion to use far less fuel in passing through forests in winter than in traversing the same distance in the open country. When the ground is frozen two or three feet deep in the fields, it is found above the freezing point in the forest.

Forests and even single trees, have, therefore, a marked influence upon the surrounding temperature, especially during the summer, and they evidently tend to equalize temperature, preventing extremes both in summer and winter. Hence they become of immense value as sanitary agencies in preserving equality of climatic conditions.

It is believed by some vegetable physiologists that trees exert this power through their own inherent warmth, which always remains at a fixed standard both in summer and winter. "Observation shows" says Meguscher,[*] "that the wood of a living tree maintains a temperature of from 54° to 56° F., when the temperature stands from 37° to 47° F., above zero, and that the internal warmth does not rise and fall in proportion to that of the atmosphere. So long as the latter is below 67° F., that of the tree is always highest; but, if the temperature of the air rises to 67° F., that of the vegetable growth is the lowest." Since, then, trees maintain at all seasons a constant mean temperature of 54° F., it is easy to see why the air in contact with the forest must be warmer in winter and cooler in summer, than in situations where it is deprived of that influence.[†]

Again, the shade of trees protects the earth from the direct rays of the sun, and prevents solar irradiation from the earth. This effect is of immense importance in cities where the paved streets become excessively heated, and radiation creates one of the most dangerous sources of heat. Whoever has walked in the streets of New York, on a hot summer's day, protected from the direct rays of a midday sun by his umbrella, has found the reflected heat of the pavement intolerable. If, for a moment, he passed into the dense shade of a tree, he at once experienced a marked sense of relief.

Trees also have a cutaneous transpiration by their leaves. And although they absorb largely the vapor of the surrounding air, and also the water of the soil, they nevertheless exhale constantly large volumes into the air. This vaporization of liquids is a frigorific or cooling process, and when most rapid, the frigorific effect reaches its maximum. The amount of fluid exhaled by vegetation has been, at various times, estimated with more or less accuracy. Hales[*] states that a sun-flower, with a surface of 5.616 square inches, throws off at the rate of 20 to 24 ounces avoirdupois every twelve hours; a vine, with 12 square feet of foliage, exhales at the rate of 5 or 6 ounces daily. Bishop Watson, in his experiments on grasses, estimated that an acre of grass emits into the atmosphere 6.400 quarts of water in 24 hours.

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[*] Man and Nature. G. P. Marsh, New York. 1872.

[†] It is interesting to notice, in this connection, the remark of Angus Smith, already quoted, that a temperature of 54° F. is important in the decomposition of animal and vegetable matter.

It is evident, therefore, that vegetation tends powerfully to cool the atmosphere during a summer day, and this effect increases in proportion to the increase of the temperature. The influence of trees heavily leaved, in a district where there is no other vegetation, in moderating and equalizing the temperature, cannot be overestimated. The amount of superficial surface exposed by the foliage of a single tree is immense. For example, "the Washington Elm, of Cambridge, Mass., a tree of moderate size, was estimated several years since to produce a crop of 7,000,000 leaves, exposing a surface of 200,000 square feet, or about five acres of foliage."

Trees regulate the humidity of the air by the process of absorption and transpiration. They absorb the moisture contained in the air, and again return to the air, in the form of vapor, the water which they have absorbed from the earth and the air. The flow of sap in trees for the most part ceases at night, the stimulus of light and heat being necessary to the function of absorption and evaporation. During the heated portions of the day, therefore, when there is the most need of agencies to equalize both temperature and humidity, trees perform their peculiar functions most actively. Moisture is rapidly absorbed from the air by the leaves, and from the earth by the roots, and is again all returned to the air and earth by transpiration or exudation. The effect of this process upon temperature and humidity, is thus stated by Marsh: "The evaporation of the juices of the plant by whatever process effected, takes up atmospheric heat, and produces refrigeration. This effect is not less real, though much less sensible in the forest than in meadow and pasture land, and it cannot be doubted that the local temperature is considerably affected by it. But the evaporation that cools the air, diffuses through it, at the same time, a medium which powerfully resists the escape of heat from the earth by radiation. Visible vapor or clouds, it is well known, prevents frosts by obstructing radiation, or rather by reflecting back again the heat radiated by the earth, just as any mechanical screen would do. On the other hand, clouds intercept the rays of the sun also, and hinder its heat from reaching the earth." Again, he says, upon the whole, their general effect "seems to be to mitigate extremes of atmospheric heat and cold, moisture and drought: They serve as equalizers of temperature and humidity."

2.—*Effects upon Malarial Emanations.*—The power of trees, when in leaf, to render harmless the poisonous emanations from the earth, has long been an established fact. Man may live in close proximity to marshes from which arise the most dangerous malaria with the utmost impunity, provided a grove intervene between his home and the marsh. This function of trees was known to the Romans, who enacted laws requiring the planting of trees in places made uninhabitable by the diffusion of malaria, and placed groves serving such purposes under the protection of some divinity to insure their protection.

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[*] Public Parks. By JOHN H. RAUCH, M. D. Chicago, 1869.

3.—*Purification of the Atmosphere.*—The process of vegetable nutrition consists in the appropriation by the plant or tree of carbon. This element it receives from the air in the form principally of carbonic acid, and in the process of digestion the oxygen is liberated, and again restored to the air, while the carbon becomes fixed as an element of the woody fiber. Man and animals, on the contrary, require oxygen for their nutrition, and the supply is in the air they breath. Carbon is a waste product of the animal system, and, uniting with the oxygen, is expired as carbonic acid, a powerful animal poison. A slight increase of the normal quantity of carbonic acid in the air renders it poisonous to man, and continued respiration of such air, or a considerable increase of the carbonic acid, will prove fatal. The animal and vegetable world, therefore, complement each other, and the one furnishes the conditions and forces by which the other maintains life and health. "Plants," says Schacht, "imbibe from the air carbonic acid and other gaseous or volatile products exhaled by animals, developed by the natural phenomena of decomposition. On the other hand, the vegetable pours into the atmosphere oxygen, which is taken up by animals and appropriated by them. The tree, by means of its leaves and its young herbaceous twigs, presents a considerable surface for absorption and evaporation; it abstracts the carbon of carbonic acid, and solidifies it in wood fecula, and a multitude of other compounds. The result is that a forest withdraws from the air, by its great absorbent surface, much more gas than meadows or cultivated fields, and exhales proportionally a considerable greater quantity of oxygen. The influence of the forests on the chemical composition of the atmosphere is, in a word, of the highest importance."*

In large cities, where animal and vegetable decomposition goes on rapidly during the summer, the atmosphere is, as already stated, at times saturated with deleterious gases. At the period of the day when malaria and mephitic gases are emitted in the greatest quantity and activity, this function of absorption by vegetation, is most active and powerful. Carbonic acid, ammoniacal compounds, and other gases, products of putrefaction, so actively poisonous to man, are absorbed, and in the process of vegetable digestion, the deleterious portion is separated and appropriated by the plant, while oxygen, the element essential to animal life, is returned to the air. Trees, therefore, in cities, are of immense value, owing to their power to destroy or neutralize malaria, and to absorb the poisonous elements of gaseous compounds, while they emit the oxygen.

The conclusion from the foregoing facts is inevitable that one of the great and pressing sanitary wants of New York City is an ample supply of trees. It is, in effect, destitute of trees; for the unsightly shrubs which are planted by citizens are, in no proper sense, adequate to the purpose which we contemplate. Its long avenues, running North and South, without a shade-tree, and exposed to the full effect of the sun, are all but impassible at noonday in the summer months. The pedestrian who ventures out at such an hour finds no protection from an umbrella, on account of the radiation of the intense heat from the paved surface. Animals and man alike suffer from exposure in the glowing heat. Nothing mitigates its intensity but the winds, or an occasional rain-storm. And when evening comes on, the cooling of the atmosphere produced by vegetation does not occur, and unless partially relieved by favoring winds or a shower, the heat continues, but little abated, and the atmosphere remains charged with noxious and irrespirable gases. It is evident that shade-trees, of proper kinds, and suitably arranged, supply the conditions necessary to counteract the evils of excessive heat. They protect the paved streets and the buildings largely from the direct rays of the sun; they cool the lower stratum of air by evaporation from their immense surfaces of leaves; they absorb at once the malarious emanations and gases of decomposition, and abstract their poisonous properties for their own consumption; they withdraw from the air the carbonic acid thrown off from the animal system as a poison, and decomposing it, appropriate the element dangerous to man, and give back to the atmosphere the element essential to his health and even life.*

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* *Les Arbres*, quoted by Marsh.

And we may add that cultivated shade-trees in New York would be an artistic and attractive feature of the streets. Every citizen enjoys trees, as is evident from the efforts made to cultivate them throughout the city.

But it is idle to attempt to supply the city with suitable trees and ample shade, until the whole control and management of this service is placed under a qualified authority. If it is left to individual citizens to select their own trees, and cultivate them as they may think proper, there will be no improvement upon the present system. Fortunately we have in the Department of Public Parks a commission fully and admirably qualified to assume the entire control of the trees of New York. This body could be empowered to select and plant the trees, and afterwards to cultivate and protect them. In granting the requisite powers to this commission, the Legislature should authorize the planting of trees in all streets and public places, with suitable protection, and make interference with trees in the city, except by the agents of the commission, a penal offense. In wide streets and avenues, the planting of a row of trees in the centre of the street might be left to the discretion of the commission.

II.—THE INTRODUCTION OF RIVER-WATER FOR CLEANING.

An examination of the daily temperature and mortality record shows some remarkable fluctuations due to the effects of rain-storms. The fall of temperature on the occurrence of rain on a summer's day is sometimes ten degrees, and it remains reduced for twenty-four hours or more. A corresponding fall of the mortality rate takes place on the following day, and it remains reduced until the temperature again rises. It has often been remarked, also, that wet seasons, or those noted for frequent rain-storms, have the least mortality.

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* The late Dr. Francis remarked that he had noticed a marked increase in the fatality of diseases in sections of the city after the removal of trees and all vegetation.

The action of a rain-storm in the reduction of temperature is twofold: First. The air is washed by the rain, and both cooled and purified. At the same time the attending movement of the winds changes the atmosphere, removing the hot and stifling air of the town, and replacing it from the ocean of fresh cool air from country places, or from the sea. Second. The evaporation of the freshly fallen rain from the heated surfaces of the city, as the paved streets, the brick walls, the metal roofs of the buildings, is a refrigerating process, and tends powerfully to cool the lower stratum of the air.

Though we cannot extemporize rain-storms, and secure the benefits to be derived from them in the purification and cooling of the atmosphere further than would be effected by an abundant supply of vegetation, yet we may daily flush the streets, gutters, courts, alleys, etc., with fresh water. By this simple sanitary act, we can daily cleanse the city of all the surface filth not removed by the scavengers, and cool the atmosphere by the evaporation attendant upon the free use of water. By no other method can the city be preserved in a suitable state of cleanliness during the summer, than by the daily and free use of water. The broom of the scavenger is wholly inadequate to the purpose: it removes only the more gross substances, and leaves the finely divided and infinitely more putrescible and poisonous materials to be vaporized, and poison the air, or be driven by the winds into every recess.

Competent engineers find no practical difficulty in supplying the city with water from that exhaustless reservoir, the river. The water from this source is well adapted for the purpose of cleaning the streets, gutters, and sewers.

Among the plans for utilizing the river-water for sanitary and other purposes, that devised by Wm. E. Worthen, Esq., Sanitary Engineer, to the Metropolitan Board of Health,* demonstrates, not only the practicability of the scheme, but also its economy. He proposed to divide the city below 59th street into two districts, by 14th street; each district was to have a pumping-engine station: the lower at the corner of Canal and Walker streets, and the upper, on the reservoir, at 40th street. The water was to be conveyed to the pumping-stations by brick conduits, delivering by gravitation into wells. There were to be two pumping-engines at each station, each of the daily working capacity of 6,000 gallons per minute, and in case of necessity, 9,000 gallons per minute; one engine only to be in use; the other to be a reserve-engine, in case of accidents. The pumps were to draw their supply by gravitation from a well, fed by a 4-feet brick conduit from the river, and deliver the water into a stand-pipe under a head of 100 feet above tide-level; the distribution thence to be through mains. The total cost of construction was carefully computed, and found not to exceed $4,000,000, and the cost of maintenance $130,000 annually. Although this plan was submitted as a sanitary measure, and designed simply to secure thorough cleanliness during those months of the year when the Croton supply is deficient, Mr. Worthen suggests that this new water supply may still further be utilized. In the first place, it would supply the Fire Department with water to any extent it might require, and, having such forcing power through the medium of the pumps, fire-engines would not be required. Street cleaning and the Fire Department could be under one management. In the second place, hydraulic power could be furnished to the commercial districts through the distributing or service pipes, which would be of immense advantage, and would surpersede the present costly and clumsy machinery in use. A similar system has been introduced into London, at a great expense, for the express purpose of supplying the commercial portions of the town with hydraulic power in hoisting lifts, etc. It is estimated that the rental of such water-power would in itself pay the interest on the cost of construction and maintenance, and leave a surplus which would in time extinguish the entire debt, and thenceforth be an important source of revenue. Finally, such a water supply would furnish the requisite conveniences for public baths, the next great sanitary want of the people of New York, to which we shall allude. Baths could be cheaply constructed and maintained in every part of the tenement house districts, and the water, being derived from the river, would be sufficiently impregnated with salt at certain stages of the tides to yield the medicinal virtues of sea-bathing.

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* See Report Met. Board of Health, 1869, page 568.

Whatever other advantages might be derived from the contemplated exhaustless river supply to the city, the importance of this measure to the public health would far surpass all other considerations. The whole paved surface could be daily thoroughly washed with streams of water thrown with immense force; the gutters would be flushed with such volumes of water, as would cleanse them of all filth and obstructions; and the sewers would be converted into living streams of water, which would remove all the now stagnant sewage, and destroy the poisonous sewer gases, which find their way upward into dwellings, and are so fatal to health and even life.

III.—Artificial Means of Regulating Bodily Temperature.

In the discussion of the normal temperature it was noticed that there is a daily fluctuation, the minimum occurring in the morning, and the maximum in the afternoon. It was also remarked that within given limits the animal had an inherent power of regulating its temperature and preserving an eqilibrium compatible with health. When, however, high heat is too long continued, these compensating functions may be unable to maintain the normal condition; the temperature then rises, and the heat may prove fatal. It was also noticed that the animal temperature has the same daily fluctuation in disease as in health, but that in sickness, for the most part, the temperature regulation-power is weak, and the sick are, therefore, much more susceptible to the evil effects of high heat, especially in the latter part of the day.

It becomes a sanitary question of much importance to determine whether any measure may be taken to supply artificial means to the people, by which the normal bodily temperature may be so regulated or preserved as not to reach a dangerous point during those periods of the day when the temperature of both the external air and of the animal system reach their maximum. It is evident that if at this critical portion of the twenty-four hours the temperature regulation-powers of the system could be strengthened, so that the cooling processes of the body would equal the heat produced, plus the external heat, no harm could come to the individual from excessive heat, whatever the disease might be, or the degree of temperature of the air.

The measure best adapted to accomplish this most desirable result is THE BATH. It has been stated, in considering the conditions which affect the temperature of the body, that a warm bath is a powerful agent in reducing the temperature of the animal system, and that its effects are long continued. The warm bath produces this effect largely by promoting the circulation in the skin, and thus increases evaporation from the surface—a refrigerating process. The blood is withdrawn from the internal organs, and remains exposed to the cooling effects of the evaporation for a long period.

Bathing, as a measure for the promotion of public health, was better understood and far more highly appreciated by the ancients than it is by the moderns. The ruins of the ancient cities of the East generally show the most ample provisions for public baths. These baths were frequently made sacred, and were dedicated to the gods. The public baths of Rome illustrate the importance attached to this provision for the health and comfort of the people. At one period that great metropolis had eight hundred and fifty public baths, with arrangements for heating water sufficient to accommodate 285,000 persons. The baths of Diocletian were of such capacity that 18,000 persons could bathe at the same time. The public baths were open from 2 o'clock until dusk, that portion of the day when their cooling effects are most required; and notice was given of the bathing time by the ringing of a bell. The people then rushed to the baths to enjoy themselves while the water was yet warm, and all classes frequently mingled together, not excepting the nobility, or even the Emperor, who was sometimes found among the bathers. The water for these baths was brought by enormous aqueducts from great distances. "Water of every grade of temperature abounded; and even that of the sea and of the sulphurous fountain of Abula, near Tibur, was introduced. Within the vast precincts of the thermæ were found temples, palestræ, for the sports of running, wrestling, boxing, pitching the quoit and throwing the javelin; and extensive libraries, architecture, sculpture, and painting exhausted their refinements on their establishments, which, for their extent, were compared to cities; incrustations, metals, and marble were all employed in adorning them.' Those of which the most numerous remains are still visible, are the baths of Titus, Antoninus Caracalla, and Diocletian. In the order of time these were of subsequent erection to the thermæ of Agrippa and Nero. Of the magnificence of the baths of Agrippa, the relation, friend, and counselor of Augustus—an idea may be formed from the circumstance of the Pantheon serving as a vestibule to them. By his will he bequeathed his gardens and the baths, which went by his name, to the Roman people, and he appropriated particular estates to their support, in order that bathing might be attended with no expense to the public."*

What a melancholy contrast to such enlightened public zeal in behalf of the health of its people does New York present! Surrounded with water which can be readily utilized, with a population half of which at least never bathe for want of facilities, this city has but two public baths. These baths are entirely unfit for the purposes here contemplated, and deserve to be mentioned only to the shame of our municipal government.

It has been alleged in palliation of our neglect to supply the masses of the people with adequate means of bathing, that there is no popular appreciation of baths in this country. There is ample proof of the absurdity of that statement. Boston has for several years been supplied with public baths, and they are patronized by all classes, especially the poor, during the summer months, in a most liberal manner. The number of bathers annually increases, and the baths are so conducted as to render them nearly or quite self-supporting, and yet no tax is imposed which prevents the poorest person from enjoying their benefits. The two contemptible apologies for public baths, which New York supports, are overcrowded during the summer. This fact proves that if adequate provision were made for the accommodation of the people, there are few persons who would not bathe daily.

But to secure an adequate supply of public baths some department of the City Government, like the Board of Health, or the Department of Public Works, must be empowered to erect and conduct them in such a manner to supply all classes of inhabitants. They should not be confined to the river-front, but should be distributed over the entire city, with suitable isolation of the sexes. If river-water is introduced as proposed for cleansing, there would be an ample supply of water.

GENERAL CONCLUSIONS.

Among the measures adopted to diminish the mortality of New York, due to excessive heat during the summer months, the following are recommended:

I. *The Cultivation of Shade-Trees in the Streets.*—An adequate supply of shade-trees would tend to accomplish this object by protection from the direct rays of the sun; by preventing the paved surfaces from becoming heated; by enveloping the city with an immense evaporating surface which tends, powerfully, to cool the lower stratum of the air; by equalizing humidity; by the absorption of malarial emanations from the earth; by purifying the air in its absorption of gases deleterious to man, and the emission of gases necessary to his existence. In order to provide the city with the requisite number and variety of trees, and to properly and economically cultivate them, the Department of Public Parks should be charged with the care of all trees now in the streets of the city, and also be empowered, under proper regulations, to plant and cultivate trees in all of the public streets.

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* Bell on Baths.

II. *The Supply of River-Water for Cleansing.*—The thorough flushing of the entire paved surface of the city daily so as to remove to the sewer all animal and organic matters before putrefaction has made any considerable progress, and at the same time the cleansing of the sewers with immense volumes of river-water, would have two most important results: 1. There would be no saturation of the air with the gases of putrefaction, due to high heat, now so destructive to health and life, especially of the young and feeble. 2. The lower stratum of the air would be so cooled by evaporation as to greatly diminish the temperature during the heated portion of the day.

III. *An Adequate Supply of Public Baths.*—The maintenance of public baths in such numbers, and so distributed throughout the city as to enable every inhabitant to bathe during the afternoon and evening, would greatly mitigate the effects of high temperature: 1. By directly reducing the temperature of the body. 2. By maintaining a diminished temperature through the increased evaporation from the surface, which would follow thorough cleansing of the skin.

INDEX

TO

ANNUAL REPORT OF 1871.

"A," Appendix, 37–51.
Abstract of deaths, in winter quarter, of 1871, 124, 125; in spring quarter, do, 128, 129; in summer quarter, do, 134, 135; in autumnal quarter, do, 138. 139; of deaths during the year 1871, 148–181; of marriages, for the year 1871, 268; of births, for 1871, 278.
Actions for penalties, 33–34.
Alcoholism, 150, 151, 200, 209.
Alleys, 32, 48.
Ambulance Corps, the, 38.
Amendment proposed to tenement house law, 46.
Aneurisms, 158, 159, 219.
Animal vaccination, 72–73.
Animals, removal of dead, 21, 32; slaughtering of, 22.
Annual reports, see *Reports*.
Apoplexy, 156, 157, 219.
Appendixes, A, 37; B, 121; C, 291; D, 293; E, 297; F, 307; G, 309; H, 311; I, 325; K, 333; L, 348; M, 368; N, 374.
Areas, 32, 48.
Ash and garbage nuisance, the, 32, 57, 68; 88, 96, 102.
Ashes, see *Garbage*.
Asiatic cholera, see *Cholera*.
Assistant Chemist, report of, 117–120.
Attorney and Counsel, work of, in 1871, 34; report of, 307–308.
Awnings, 32.

"B," Appendix, 121–290.
Barr, Thos. J. (Commissioner), 310.
Basements, see *Cellars*.
Baths in tenement houses, 43; public free, 49, 63, 401–402, 403.
Berlin, effect of late war on death rate in, 185.
Births, abstract of, during 1871, 278; certificate of, 274; premature, 172, 173, 224; preternatural, 172, 173, 224; in winter quarter of 1871, 123; in spring quarter, do, 130; in summer quarter, do, 133; in autumnal quarter, do, 140; during the year, 31.
Birth rate, in London and New York, 121.
Board of Health, of the Health Department, annual report of, 9–34; general work of, 9; orders of, 31–33; changes in, 34.
Bodies in transit, 286.
Bosworth, Hon. J. S. (Commissioner), 34.
Bounds of Inspection Districts; First, 52; Second, 53; Third, 54; Fourth, 59; Fifth, 66; Sixth, 66; Seventh, 74; Eighth, 77; Ninth, 87; Tenth, 91; Eleventh, 96; Twelfth, 99; Thirteenth, 101; Fourteenth, 103; Fifteenth, 105; Sixteenth, 107; Eighteenth, 110; Nineteenth, 115.
Bright's disease, 164, 165, 220.
Bromo-Chloralum, 117.
Bronchitis, mortality by, 160, 161, 219.
Buildings, untenable, see *Vacation*.
Bureau of Records of Vital Statistics, work of, 30–31.
Bureau of Sanitary Inspection, duties of, 28; work done by, 29; organization, 37; officers, 38.
Bureau of Sanitary Permits, report of, 291–292.
Bureau of Street Cleaning, work of, 30; report of, 293–296.
Burial permits, 263.

"C," Appendix, 291–292.
Cancer, deaths by, 154, 155, 210.
Carbolate of lime, 117.
Carbolic powder, of Am. San. Assoc., 117.
Cars, street, 48, 90.
Ceccarini, Dr. J. (Commissioner), 324, 332.
Cellars and pavements, 20, 32; in tenement houses, 44, 53, 57, 77, 88, 97, 102.
Cerebro-Spinal meningitis, epidemic of 1871, among horses, 27–28; among human beings, 28, 39, 40, 45, 65, 98; special report upon, 348–367; deaths by, 148, 149, 156, 157; cases and deaths in 1872, 356; statistics of (table), 355.
Certificates of death, 261; of marriage, 269; of birth, 274.
Cesspools, 32.
Chandler, C. F. (Chemist), 368, 370; report of, on Croton water supply, etc., 368–373.
Chemist, see *Chandler*.
Chemist, Assistant, see *Endemann*.
Cherry street, Nos. 36 and 38, see *Gotham Court*.
Chicago, effect of great fire on population and death rate, 185.
Chimneys, 32.
Chloride of aluminum, 117.
Cholera, precautionary measures adopted against, 10, 27; in spring and summer of 1871, 26–27; report of Sanitary Committee, 187, 325, 332.
Circulatory system, diseases of, 158, 150, 219.
Cirrhosis of liver, deaths by, 160, 161, 219.
City railroads, 69.
City Sanitary Superintendent, report of, 37–51.
Clark, Col. Emmons (Secretary), 34, 37.
Cleaning, street, 13–14; Bureau of, 30, 47, 62, 77.
Collect pond, the drainage of the, 91.
Committee, special, on small-pox, report of, 311–324; on finance, report, of 309–310; sanitary, on cholera, 328–332; on movements, etc., of tenement house population, 333–347; on epidemic of cerebro-spinal meningitis, 348–367; on Croton water, etc., 368–373; on effect of high temperature on health, 374–403.
Company, the N. Y. Rendering, 21; the Lodi, 22.
Condensed statement of mortality, 266.
Congestion of brains, deaths by, 156, 157, 219; of lungs, deaths by, 160, 161, 219.
Constitutional diseases, 156, 157, 210.
Consumption, mortality by, 126, 131, 136, 141.
Contagious diseases, the care of, 23, 24; means of control over, 25; cerebro-spinal meningitis, 39–40; annual report upon, for 1871–1872, 40–41, 53, 58, 63, 90, 102, 104, 116.
Control of small-pox, means of, 25.

CONVULSIONS, deaths by, 156, 157, 219.
COOPER, C. H. (San. Permit Inspector), report of, 291–292.
COTTMAN, THOS. (Insp. Street Cleaning), report of, 293–296.
COURT, see *Gotham Court*,
COW stables, 69.
COWS, swine, and goats, 23, 32.
CROUP, deaths by, 141, 148, 149.
CROTON water, report upon by the Chemist and Magnus Gross, 368–373; analyses of, by Dr. Chandler, 370–373.

" D," Appendix, 293, 296.
DALRYMPLE, Dr. A. P. (Ass't San. Inspector), 38; report of, 56, 59.
DANGEROUS and unsafe buildings, see *Vacation*.
DARK halls in tenement houses, 92.
DEATHS, from small-pox, 25; during 1871, 126, 131, 136, 141, 148, 149, 187; total for year, 31; in each week of the winter quarter of 1871, 126; in each week of the spring quarter, do, 131; in each week of the summer quarter do, 136; in each week of the autumnal quarter, do, 141; by zymotic diseases, in winter quarter, 1871, 127; in spring quarter, do, 132; in summer quarter, do, 137; in autumnal quarter, do, 142; total for year 1871, 150, 151, 186, 188, 189; from extreme old age, 226, 227, 258; in tenement houses, 10, 16; from the July riot. 232–240; from the Westfield explosion, 136, 176. 177; from sudden and violent causes, 174, 175, 228, 231; during the year 1871, 9, 182; observations on principal causes of, 186.
DEATH rate, in various wards of the city, 185; in the principal cities of the U. S., 182.
DE VOE, Col. Thos. F., 50.
DELIRIUM tremens, deaths by, 150, 151, 209.
DENTITION, 222, 223.
DEPUTY Register of Records, report of, 261.
DEVELOPMENTAL diseases, deaths by, 172, 173, 224.
DIARRHŒAL diseases, 31; deaths by, 126, 131, 136, 148, 149, 196.
DIATHETIC diseases, 154, 155, 210.
DIETETIC diseases, 150, 151, 209.
DIGESTIVE system, diseases of, 161, 219.
DIPHTHERIA, deaths by, 141, 148, 149.
DIRECT effect of solar heat, deaths by, 156, 157, 219.
DISEASES, contagious, the care, 23; annual report of, 1871, 53, 58, 63, 90, 102, 104, 108.
DISEASES of the nervous system, 158, 159, 219; of the lungs. 160, 161, 219; of the generative system, 166, 167, 221; of the digestive system, 161, 219.
DISINFECTION, 23; in small-pox, 26, 49; of houses for contagious diseases, 120.
DISINFECTANTS, 23; examined, 117.
DISINTERMENTS, 287.
DISTRICTS. Sanitary Inspection Districts, reports, see *Sanitary Inspection Districts;* bounds of, see *Bounds;* topography, see *Topography*.
DOCKS and piers, 50.
DRAINS, 32.
DRAINAGE, 10, 46, 75; of the Collect pond, 91, 111, 115, 300.
DUMPS, manure, 48, 61, 70.
DUMPING-GROUND, 48, 108.
DUST, observations on street, 93.
DWELLINGS, private, 51, 71.

" E," Appendix, 297–300.
EIGHTH Sanitary Inspection District, report of, 77–87.
EIGHTEENTH Sanitary Inspection District, report of, 110–115.
EMPHYSEMA of the lungs, deaths by, 160, 161, 219.
ENCEPHALITES, death by, 156, 157, 219.
ENCUMBRANCES of streets, 303.
ENDEMANN, H. (Ass't Chemist), 38, 49; report of. 117–120, 121.
ENGINEER'S report. 297, 306.
ENTERITES, deaths by, 160, 161, 219.
ENTHETIC diseases, deaths by, 156, 157, 219.
EPIDEMICS, small-pox in 1871, 311–324; cerebro spinal meningitis, 348–367.
EPILEPSY, deaths by, 156, 157, 219.
ERYSIPELAS, deaths by, 126, 148, 149, 195.
EXPENDITURES of the Board, the annual, 34.
EXPLOSION of boiler on Steamboat "Westfield," 136, 176, 177.

" F," Appendix, 307–308.
FACTORIES and workshops, 55.
FAT boiling and melting, 104.
FAT rendering, 50, 58, 61.
FERTILIZING materials, waste of, &c., 11, 12; manufactory of, 32.
FEVER, scarlet, 58, 65
FINANCE Committee, report of, 309–310.
FIFTH Sanitary Inspection District, report on, 59.
FIFTEENTH Sanitary Inspection District, report on, 105–106.
FIRST Sanitary Inspection District, report on, 52.
FOREIGN and native mortality, 258.
FOWLS removed, 32.
FRANKEL, Dr. EDWARD (Ass't Sanitary Inspector), 38.
FREE baths, public, 49.

" G," Appendix, 309–310.
GANGRENE, senile. 174, 175, 224.
GARBAGE and garbage boxes, 14–16; 32, 47, 57, 68, 60, 88, 96, 102, 112.
GAS, 32.
GASTRITIS, deaths by, 162, 163, 219.
GIRONDIN disinfectant, the, 118.
" GOTHAM Court," improvements in, 80.
GOUT, deaths by, 154, 155, 210.
GROSS, MAGNUS (Commissioner). 310, 324, 332, 368.
GUTTERS, street, 68, 77, 93, 104.

" H," Appendix, 311–324.
HALL, Dr. WM. E. (Assistant Health Inspector), 38; report of, 99, 100.
HAMILTON, Dr. A. MCLEAN (Health Inspector), 38, 57; report of, 74, 76.
HASWELL, C. H. (Engineer), report of, 297–306.
HEALTH, See *Board of Health*; also 9; of New York, 30.
HEART disease, deaths by, 158, 159, 219.
HEPATITIS, deaths by, 162, 163, 219.
HEUEL, Dr. F. (Sanitary Inspector), 38; report of, 101–103.
HOMICIDES, 176, 177, 243.
HORSES, cerebro-spinal meningitis among the, 27.
HOUSEKEEPERS, resident, in tenement houses, 43, 57, 106, 107.
HOUSES, tenement, 42–44; sewerage of, 45; disinfecting for contagious diseases, 20.
HUGHES, Dr. B. (Assistant Sanitary Inspector), 38; report of, 53, 54.
HYDROPHOBIA, deaths by, 150, 151, 196.

" I," Appendix, 325–332.
IMPORTATIONS of rags, 22.
IMPROVEMENTS in population of tenement houses, 19–20.
INEBRIATES, occupations of, 208, 209.
INFANT mortality, 136.
INGRAM, JAMES (Assistant Engineer), 38.
INSANITY, deaths due to, 156, 157, 219.
INSPECTION, Bureau of Sanitary, organization of, 28; work done by, 29.
INSPECTION Districts, see *Districts*.
INSPECTORS, the Sanitary, list of, 38; duties of, 38, 39.
INTEGUMENTARY diseases, deaths by, 168, 169, 221.
INTEMPERANCE, deaths due to, 150, 151, 200, 209.
INTERMITTENT fever, 31; deaths by, 131, 136, 141, 148, 149, 191.
ISOLATION of small-pox patients, 26, 106.

JAMES street, improvements in Nos. 31 and 33, 80.
JANES, Dr. E. H. (Sanitary Inspector), 38, 49, 50, 66, 74.
JOY, Dr. H. De W. (Sanitary Inspector), 38, 51; report of, 103, 105.
JUDSON, Dr. A. B. (Assistant Sanitary Inspector), 38; report of, 91–95.
" JULY " Riot, 136, 176, 177.

" K," Appendix, 333–347.
KENNEDY, Dr. JAMES (Sanitary Inspector), 38; report of, 52.

" L," Appendix, 348–367.
LABOR, amount and kind of, done by Sanitary Inspectors, 37–39.

Landlords, unwilling spirit of, 10.
Lands, see *Drainage*, and *Tidal*.
Lard rendering, see *Fat boiling*.
Laryngitis, deaths by, 160, 161, 219.
Law, the tenement house, proposed amendment to, 46.
Leo, Dr. S. N. (Assistant Sanitary Inspector), 38, 51; report of, 59. 66.
Liautard, Prof. (Veterinary Surgeon), 27.
Light in tenement houses, 42, 43.
Lime. as disinfectant, 117.
Local housekeepers in tenement houses, see *Housekeepers*.
Local diseases.
Local respiratory affections, deaths by, 141, 160. 161.
Locomotory and osseous diseases, 166, 167, 221
Lodi Company, the, 22.
Low lands, see *Drainage*.
Lunatic Asylum, 209.

"M," Appendix, 368–373.
Manhattan market, the new, 50.
Manierre B. F. (Commissioner), 310.
Manure and manure vaults, 21; dumps for, 48, 61, 70.
Markets, public, 50; the new Manhattan, 50, 62, 78, 302.
Marriages, during the year, 31, 268; registry of, 270, 271; registry of, as recorded, for six years, 272; in winter quarter of 1871, 123; in spring quarter, do, 130; in summer quarter, do, 133; in autumnal quarter, do, 140.
Measles, 58, 65; deaths by, 126, 131, 136, 141, 148, 149, 190.
Melting fat and lard, see *Fat boiling*.
Meningitis, cerebral, deaths by, 156, 157, 219; cerebro-spinal, deaths by, 148, 149, 156. 157.
Meteorology, of winter quarter of 1871, 123; of spring quarter, do, 130; in summer quarter, do, 133; in autumnal quarter, do, 140; during the year 1871, 143, 144–147.
Meteorological record and mortuary report, (daily), June 1, to August 31, 1871 (table), 376–378; the same for 1872, 379–381.
Methods of relief, for overcrowding of population, 17–20.
McCarty, James (Assistant Health Inspector), 38.
McGowan, B. J. (Ambulance Corps), 38.
McNally, Jno. (Ambulance Corps), 38.
Miasmatic diseases, 31.
Mills, plaster of Paris, 55.
Morris, Moreau, City Sanitary Inspector. 38; report of, 37–51; report on cerebro-spinal meningitis, 348.
Morris, Dr. S. F. (Sanitary Inspector), 38, 46; report of, 54–56.
Mortality, for 1871, see *Death rate*, also 30–31; by small-pox, 126, 131, 136, 141, 148, 149, 181; at small-pox hospital, 187; foreign and native, 258; in winter quarter of 1871, 126; in spring quarter, do, 131; in summer quarter, do, 136; in autumnal quarter, do, 141; during the year 1871, 182.
Mortality and meteorology, 376–378, 379–381.
Mortality, relative, with temperature above and below 70° F. (table), 388.
Mortality, weekly, with temperature for 1872 (table), 393.
Mortality for 1871 (monthly), table of, 375.
Mullins, Alderman, 83.
Mullins' Court, 83.

"N," Appendix, 374–403.
Nagle, Dr. J. T. (Dep. Reg. Records), report of, 261–290.
Native and foreign mortality, 258.
New York Rendering Co., 21, 59.
New Worth Street, bad condition of, 92.
Night-Soil, removal of, 27.
Ninth Sanitary Inspection District, bounds of, 87; report of, 87.
Nuisances, abated, statement of, 32, 62.

Observations on the principal causes of death, 186.
Occupation, its effect upon phthisis, 211, 216, 260; of inebriates, 208, 209.
Offal, 59.
O'Hanlon, Dr. P. (Sanitary Inspector), 38, 45, 105, 106; report of.
Old age, deaths due to. 136, 174, 175.
Osseous system, diseases of, 166, 167, 221.
Ovarian tumor, deaths due to, 166, 167, 221.
Overcrowding, and methods of relief, 17–20.
Oyster shells, 106.

Paris, effect of the late war on its death rate, 185.
Pavements, 12, 48, 67, 96, 102.
Penalties, actions instituted for, 33–34.
Peritonitis, deaths by, 162, 163, 219.
Permits granted, for cellars, 21; for cattle, 23.
Phthisis pulmonalis, mortality by, 126, 131, 136, 141, 156. 157, 210–218, 260.
Physicians, do not appreciate value of vital statistics, 31.
Piers and wharves, 11, 16, 50, 89.
Plaster of Paris mills, 55.
Plumbing, poor, 55, 63.
Pneumonia, deaths by, 160, 161, 219.
Police, Board of, Street Cleaning under charge of, 14, 16, 30.
Population, overcrowding of the, 17–20; changes of between 1850–'70, 18; compared with London, 18; methods of relief and improvement. 19; of Thirteenth Sanitary District, 101; movements of tenement house, (report), 355; of London, estimated, 122; of Chicago, affected by the great fire, 185; of principal cities in the United States, 182–184; tenement house, 333–347.
Post, Dr. W. H. B. (Sanitary Inspector), 38; report of, 87–91.
Premature and preternatural births, see *Births*.
Private dwellings, 51, 63, 114.
Privies and water-closets, 44, 53, 57, 60, 62, 89, 96, 102, 104, 108.
Proceedings of the Board, review of,
Professional dereliction in regard to Board, 31.
Public baths. free, 49, 63; buildings, 175; health, the, 9; Works, the Department of, 14.
Puerperal fever, deaths by, 148, 149, 195.

Quarantine, preparations for cholera at, 27.
Quicklime as a disinfectant, 117.

Rags and bone; importation of, 22; vehicles for transmission of disease, 22.
Railroads, 62, 69; street, 69; on 4th ave., 297.
Rain-Fall, October, 1871—March. 1872, 354,
Records of births and marriages, 268–290; of Vital Statistics, Bureau of, 30; transcripts from, 281–285.
Register of Records, report of, 121, 261–290.
Registry of Vital Statistics. report of, 121–290.
Relapsing fever, 148, 149, 195.
Relief from overcrowding of population, 17–20.
Remittent fever, 31; deaths by, 131, 136, 141, 148, 149, 191.
Rendering Co., the N. Y., 21, 59.
Respiratory diseases, deaths by, 160, 161, 209.
Rheumatism, deaths by, 154, 155, 210.
Removal of night-soil, 22; of cases of contagious disease, 26.
Rendering Co., the New York, 21; of fat, 50, 58, 61, 104.
Report of Board of Health, 9–34; of City Sanitary Inspector and Sanitary Superintendent, 37–51; (annual) of contagious diseases for 1871–'72; of Health Inspectors, see *Sanitary Inspection Districts*; of Chemist, 368–370; of Assistant Chemist, 117, 120; on vital statistics, 121; Sanitary Permit Inspector, 291–292; Inspector Street Cleaning, Engineer, 297–306; Attorney and Counsel, 307–308; Committee on Finance, 309–310: of Special Committee on small-pox, 311–324: of Sanitary Committee on cholera of 1871–325, 332: of Sanitary Committee (by Dr. S. Smith) on movements and condition of tenement house population, 333; report of Dr. M. Morris on cerebro-spinal meningitis, 348–374; on Croton water supply, 368–373; on effects of high temperature upon health, 374–403.
Revaccination, 94.
Riot of July 12th, influence of, upon mortality, 9, 176, 177, 232–239.
River front, the, 62.
River-Water for cleaning, 398–400, 403.

Roberts, Dr. Chas. F. (Sanitary Inspector), 38; report of, 107–108.
Roberts, Wm. (Ambulance Corps), 38.
Rooms, see *Cellars*.
Rubeola, 58.
Russell, Dr. Chas. P. (Register of Records of Vital Statistics).
Sanitary Committee's report on cholera of 1871, 325–332; on tenement house population, 333; on effects of high temperatures, &c. 374–403.
Sanitary Inspection, Bureau of, organization of, 28, 137; work done by, 29; officers of, 38.
Sanitary Inspection Districts, report of, First, 52; Second, 53; Third, 54; Fourth, 56; Fifth, 66; Sixth, 66; Seventh, 74; Eighth, 77; Ninth, 87; Tenth, 91; Eleventh, 96; Twelfth, 99; Thirteenth, 101–103; Fourteenth, 103–105; Fifteenth, 103–105; Sixteenth, 107–108; Seventeenth, 108–110; Eighteenth, 110–114; Nineteenth, 115–117.
Sanitary Superintendent, report of, 37–51.
Scarlet fever, 58, 65; deaths by, 131, 141, 148, 149, 190.
Scavengers, see *License*.
School-Sinks, 44, 53.
Scurvy, deaths by, 150, 151, 209.
Second Sanitary Inspection District, report of, 53.
Senile decay, 174, 175, 224; gangrene, 174, 175, 224.
Seventh Sanitary Inspection District, report of, 74–76.
Seventeenth Sanitary Inspection District, report of, 108–110
Sewers, 10–12, 102.
Sewage, 304; utilization of, 101.
Sewerage, 10–12, 44; of houses, 45; defective, 52, 55; in Seventh Inspection District, 75, 89, 97, 108, 300.
Shade-Trees, cultivation of, in cities, 394–398, 402.
Shanties, 76.
Sick rooms, management of, 65.
Sinks, see *Schools*.
Sixth Sanitary Inspection District, report of, 66–74.
Slaughter houses, 22, 50, 62, 70, 108.
Slaughtering, see *Animals*.
Small-Pox, 9, 10, 24–26; means of controlling it, 25–26, 31; isolation of cases, 64, 71, 96, 104; special report upon, 311–324; deaths by, 126, 131, 131, 141, 148, 149, 187; hospital, 187.
Smith Dr. Stephen (Commissioner), 324, 332; report on tenement house population, 333–374; on effects of high temperature on health, 374–403.
Smoke, 70, 97.
Smoke consuming apparatus, 70.
Softening of the brain, deaths by, 158, 159, 219.
Soil, night, removal of, 22.
Soil-Pipes, defective, 106, 300.
Spotted fever, see *Cerebro-Spinal Meningitis*.
Stables, and stable manure, 21, 53, 58, 66, 68, 69, 76, 90, 97, 106, 108, 118.
Stiles, Dr. H. R. (Sanitary Inspector), 38; report of, 77–87.
Still births, see *Births*.
Stores, see *Warehouses*.
Streets, cleaning of, 13–14, 47; history of contract for, 13; bureau of, 30; pavements, 48; cars, 48, 53, 58, 62, 67, 70; pavements of, 67; cleaning, 62, 77; filtering, 93; sewerage, 97, 102, 104, 106, 107, 108, 115; gutters, disinfection of, 118; report of inspection of, 193–291; cleaning, 298–300; enumeration of, 303.
Strong, Dr. Henry T. (Assistant Sanitary Inspector), 38; report of, 108, 110.
Subsoil drainage, 111.
Suicidal deaths, 176, 177, 240, 242.
Sulphurine, 118.
Sun-Stroke, deaths by, 156, 157, 219.
Superintendence of tenement houses, see *Housekeepers*.
Superintendent, City Sanitary, report of, 37–51.
Syphilis, deaths by, 150, 151, 198.
Temperatures, high, 374–403.
Tenement houses, 16–17; improvement of, 19–20; ventilation and light in, 42; flats, 43; bath-rooms in, 43; resident housekeepers in, 43; cellars and basements in, 38; law, amendment to, 46; improvements in Fourth Ward, 78; in Fourth Inspection District, 57; in Fifth District, 60; Sixth District, 71; in Seventh District, 75; in Eighth District, 78–86; in Ninth District, 87; in Tenth District, 92; in Eleventh District, 96; of Twelfth District, 99; of Thirteenth District, 101; of Fourteenth District, 103; in Fifteenth District, 106; in Sixteenth District, 107; in Seventeenth District, 108; of Eighteenth District, 114–116.
Tenement house population, report of, 333,
Tenement house mortality, 243–251.
Tenement houses, model, construction of, 341–343.
Tenth Sanitary Inspection District, report of, 91.
Third Sanitary Inspection District, report of, 54.
Thirteenth Sanitary Inspection District, report of, 101–103.
Tidal lands, 113, 115.
Toll-Wurm, 197.
Topography of Thirteenth Sanitary Inspection District 101; of Eighteenth Sanitary District, 110, 111.
Tracy, Dr. R. S. (Assistant Sanitary Inspector), 38, 115, 117.
Trades, offensive, 10.
Trees, shade, 394–398, 402.
Tubercular diseases, 156, 157, 210.
Twelfth avenue, should be opened, 16.
Twelfth Sanitary Inspection District), report of, 99, 100.
Typhoid fever, deaths by, 126, 131, 141, 148, 149, 191.
Typhus fever, deaths by, 126, 131, 141, 148, 149, 191.
Typho-Malarial fever, deaths by, 126, 131, 141, 148, 149, 191.

Underground Rooms, 20.
Urinary diseases, 164, 165, 220.

Vacant lots, and sunken, 115.
Vacation of buildings, 19, 20; "Gotham Court," 82, 83; 315 Water street, 83; 33 Cherry street, 84; No. 17 Cherry street, 85.
Vacation of cellars, 20–21, 32.
Vaccina, 94.
Vaccine, animal, 72–73.
Vaccination, 24, 25, 29, 56, 65, 71 58, 72, 93, 102.
Vaccinating corps of physicians, 24.
Vanderpoel, A. J. (Attorney), report of, 306–308.
Vanderpoel, S. O (Health Officer of the Port), 34.
Variola and Vaccinia, 94.
Ventilation, and light in tenement houses, 42; in other buildings, 4 , 143, 88, 97.
Viele, Dr. Aug. (Sanitary Inspector), 38, 45, 51; report of, 110–114.
Violence, deaths by, 174, 175, 228, 231.
Vital Statistics, Bureau of Records of, 131–261; work of, 30; report of, 121–290.
Warehouses and stores to be converted into tenement dwellings, 20.
Waste solutions of telegraph batteries used as disinfectant, 118.
Water, the Croton, report on, 368–373; analyses of, 370–373; solids contained in (table), 371; acids and bases combined in (table), 371; results of evaporation of (table), 371; composition of suspended matter in (table), 372; comparison of, filtered and unfiltered (table), 372.
Water street, No. 315, vacated by the Board, 83.
Water-Closets and privies, 44, 53, 89, 104.
Water, 102; for cleaning river, 398–400, 403.
Wessely's solution as disinfectant, 118.
"Westfield" explosion, the, 31.
Wharves and piers, 16, 89.
Whooping-Cough, 9, 31; deaths by, 126, 131, 136, 141, 148, 149, 191.
Wood, John, 82.
Wood, Silas, builds "Gotham Court," 82, 83.
Workshops and factories, 55.
Yards, areas, and alleys, 48.
Yates, Thos. D. (Ambulance Corps), 38.
Yellow fever, 148, 149, 195.
Zymotic diseases, in winter quarter of 1871, 127; in spring quarter, do, 132; in summer quarter, do, 137; in autumnal quarter, do, 138; during the year 1871, 150, 151, 186, 188, 189.

ERRATA.

Page 38. For William C. Roberts, read *William* Roberts.